SPECIAL TOOLS > SPECIAL TOOLS

Tool (EMEA)	Tool (NAFTA)	Name	Function
1870815000	*	Anti-torque	Loosen / tighten nut drive shaft to the wheel hub
1874555001	*	Strut Machine	Disassembly of Strut
2016900020	10287	Hub Nut Actuator	Crimp Hub Nut
* Tool not available for NAFTA. Use a commercially available tool or contact Mopar Essential Tools to order the custom EMEA tool.			

DIAGNOSIS AND TESTING > DIAGNOSIS AND TESTING

ROAD TEST TO EVALUATE THE COMFORT

Carry out on roads open to traffic in safety, while respecting the rules of the road.

Before the test check the tire pressure of the two cars, bringing them back to the correct values if you encounter incorrect values.

Carry out the test on irregular bottom at a speed of 40 km / h, to test the ability of the suspension of absorb small bumps and absorb stress (damping suspension) with consequent impact noise inside the car.

Check the ability of the suspension to absorb bumps on the net, which influences the solicitations induced noise inside the vehicle: test at a speed of 40 km / h on a course that presents a series of drains.

Check the fast damping of any pitch caused by uneven road profile, performing the test at a speed of 50 km / h on a straight road with the presence of bumps / dips properly separated. This type of test should always be carried out by comparison with respect to a new vehicle or a reference to the same set-up and engine, available in the shop at the time of the test in question.

Presenting at the end of the test in question a judgment / vote on the ride comfort of the vehicle in accordance with the attached tables

SENSE	Score
Poor	3
Average	4
At the limit of acceptability	5, 5
Acceptable	6
Good	7

NOTE:

"The referenced vehicle has a default vote of 7 on ride quality".

ROAD TEST TO EVALUATE THE ROLLING / PITCH

Carry out on roads open to traffic in safety, while respecting the rules of the road.

Before the test check the tire pressure of the two cars, bringing them back to the correct values if you encounter incorrect values.

Carry out the test on a route where there are curves to the right / left of different radius, considering the loading speed of the car on corners, trying to trace the curve at a constant speed, avoiding pulling/releasing maneuvers.

To assess the stability of the car simulate a lane change/overtake and check that during the manoeuvre, you do not experience the onset of a violent reaction of car inducing uncertainty in the guide.

Carry out a road test then disconnected (rails transverse, block paving, cobbles) with the presence of various radius curves to the right / left to assess the trends in the loss of adhesion of the rear of the vehicle (for drift).

This type of test should always be compared to than a new vehicle or reference hand in setting up and engine, available in the shop at the time of the test in question.

Presenting at the end of the test object in a judgment / vote on the behavior of the vehicle to roll / pitch according to the attached table.

SENSE	Score
Poor	3
Average	4
At the limit of acceptability	5, 5
Acceptable	6
Good	7

NOTE:

"The vehicle has as reference the default behavior vote to roll / pitch of 7".

FRONT > WARNING > WARNING

WARNING:

FCA US LLC does not manufacture any vehicles or replacement parts that contain asbestos. Aftermarket products may or may not contain asbestos. Refer to aftermarket product packaging for product information.

Whether the product contains asbestos or not, dust and dirt can accumulate on brake parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris.

WARNING:

Do not remove the strut rod nut while strut assembly is installed in vehicle, or before the coil spring is compressed with a compression tool. The spring is held under high pressure.

CAUTION:

At no time when servicing a vehicle can a sheet metal screw, bolt, or other metal fastener be installed in the shock tower to take the place of an original plastic clip. It may come into contact with the strut or coil spring.

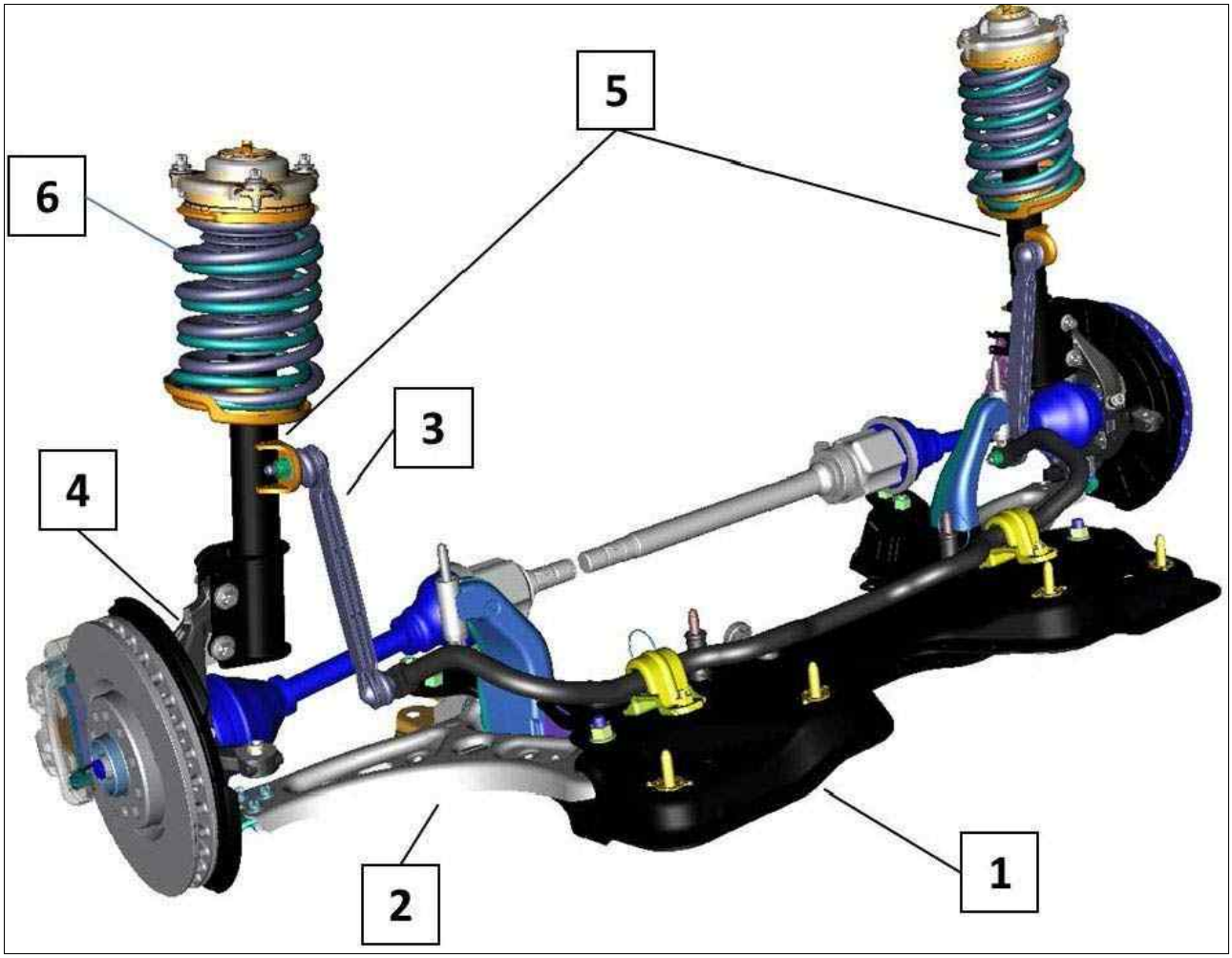
CAUTION:

Wheel bearing damage will result if after loosening the axle hub nut, the vehicle is rolled on the ground or the weight of the vehicle is allowed to be supported by the tires for any length of time.

FRONT > DESCRIPTION > DESCRIPTION

The front suspension is MacPherson type. The MacPherson layout is renowned for its characteristics of compact dimensions and low weight. The geometry and elastokinematic characteristics have been optimized to improve the loss of camber somewhat in order to achieve enhanced steering response and handling.

Fig 1: Front Suspension Components



Courtesy of CHRYSLER GROUP, LLC

The front suspension consists of:

1. A flat high-strength-steel crossmember which increases the vehicle's rigidity and features attachment housings for the third load line which are sufficiently strong to absorb the loads in the event of impact.

2. High-strength-steel lower wishbones for longer life. On front-wheel drive vehicles they are made of a single sheet of high-strength steel (HSS). On 4 X 4 vehicles they are made with double sheets of HSS. The production process permits optimal weight to be achieved, contributing to efficiency in terms of fuel consumption.

3. The anti-roll bar connecting rods are made of composite material - an innovative and rare application (they are more commonly made of steel) - which optimizes the exchange of forces between the suspension and chassis and efficiently filters out vibrations, further improving ride quality.

4. Aluminum stub axles (available later with regard to the commercial launch; at launch they are made of cast iron) are fitted on 4 X 4 models for the reduced weight and greater agility, and they improve noise/vibration levels.

5. Coil springs which optimize the thrust axis and contain transverse loads on the shock absorber

to improve comfort. The adoption of high-strength-steel springs also permitted minimal weight.

FRONT > SPECIFICATIONS > TECHNICAL SPECIFICATIONS

COIL SPRINGS

	1.4 MultiAir Turbo	2.4 MultiAir	1.6 16V Multijet	2.0 16V Multijet
Wire diameter (mm)	12.60 ± 0.05 12.80 ± 0.05 (*)	12.80 ± 0.05 13.00 ± 0.05 (*) 12.80 ± 0.05 (***)	12.80 ± 0.05	13.00 ± 0.05
The number of coils	4.52 4.82 (*)	4.50 4.64 (*) 4.92 (***)	4.50	4.64 4.92 (*) (***)
Number useful sense of Helix winding	Right-handed			
Height uncompressed spring (mm)	380 420 (*) 410 (*) (**)	375 415 (*) 440 (***)	375	415 460 (*) (***)
Compressed spring height (mm	85 90 (*)	86 89 (*) 91 (***)	86	89 93 (*) (***)
Load (daN) for 208 mm resultant length	358 ± 3% 458 ± 3% (*) 437 ± 3% (*) (**)	382 ± 3% 492 ± 3% (*) 499 ± 3% (***)	382 ± 3%	492 ± 3% 528 ± 3% (*) (***)
Color mark	Color Orange 2003 + Orange 2003 Color Brown 8011 + Pink 3015 (*) Color Green 6010 + Green 6010 (*) (**)	Color Orange 2003 + Silver 9007 Color White 9010 + Silver 9007 (*) Color Blue 5012 + Blue 5012 (***)	Color Orange 2003 + Silver 9007	Color White 9010 + Silver 9007 Color Pink 3015 + White 9010 (*) (***)

NOTE:

(*) For 4x4 versions

NOTE:

(**) For automatic transmission

NOTE:

(***) For Trailhawk versions

SHOCKS

	1.4 MultiAir Turbo	2.4 MultiAir	1.6 16V Multijet	2.0 16V Multijet
Type	MacPherson			
Overall length (Extended length) (mm)	571 ± 3 581 ± 3 (*)			
Compressed Length (flush) (mm)	403 ± 3 413 ± 3 (*)			
Stroke (mm)	168			
Shaft Diameter (mm)	22			

NOTE:

(*) For 4x4 versions

STABILIZER BAR

	1.4 MultiAir Turbo	2.4 MultiAir	1.6 16V Multijet	2.0 16V Multijet
Outer diameter (mm)	25 ± 0.2			
Color mark	Red			

FRONT > SPECIFICATIONS > TORQUE SPECIFICATIONS

FRONT SUSPENSION TORQUE SPECIFICATIONS

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.	NEW FASTENER*
Front Stabilizer Bar Bracket to Crossmember Bolt	45	33	-	
Hub Nut	71 + 63°	52 + 63° +/- 2°	-	
Hub and Bearing to Knuckle Bolts	105	77	-	

Lower Ball Joint to Knuckle Bolt	60	44	-	
Lower Control Arm to rear crossmember Bolt	125	92	-	
Lower Control Arm to Crossmember Vertical Bolt	130 + 90°	96 + 90°	-	
Lower Control Arm to Crossmember Horizontal Bolt	130 + 90°	96 + 90°	-	
Stabilizer Bar Link to Stabilizer Bar Nut	80	59	-	
Stabilizer Bar Link to Strut Nut	80	59	-	
Strut to Body Nuts	60	44	-	
Strut to Knuckle Bolts	100 + 90°	74 + 90°	-	
Strut Rod to Strut Mount Nut	70	52	-	
*** NEW FASTENER:** Do not reuse these fasteners. If removed, a new fastener must be installed and tightened to specifications.				

FRONT > ARM, LOWER CONTROL > DIAGNOSIS AND TESTING > DIAGNOSIS AND TESTING - LOWER CONTROL ARM

Inspect the lower control arm for signs of damage from contact with the ground or road debris. If the lower control arm shows any sign of damage, look for distortion. Do not attempt to repair or straighten a broken or bent lower control arm. If damaged, the lower control arm is serviced only as a complete component.

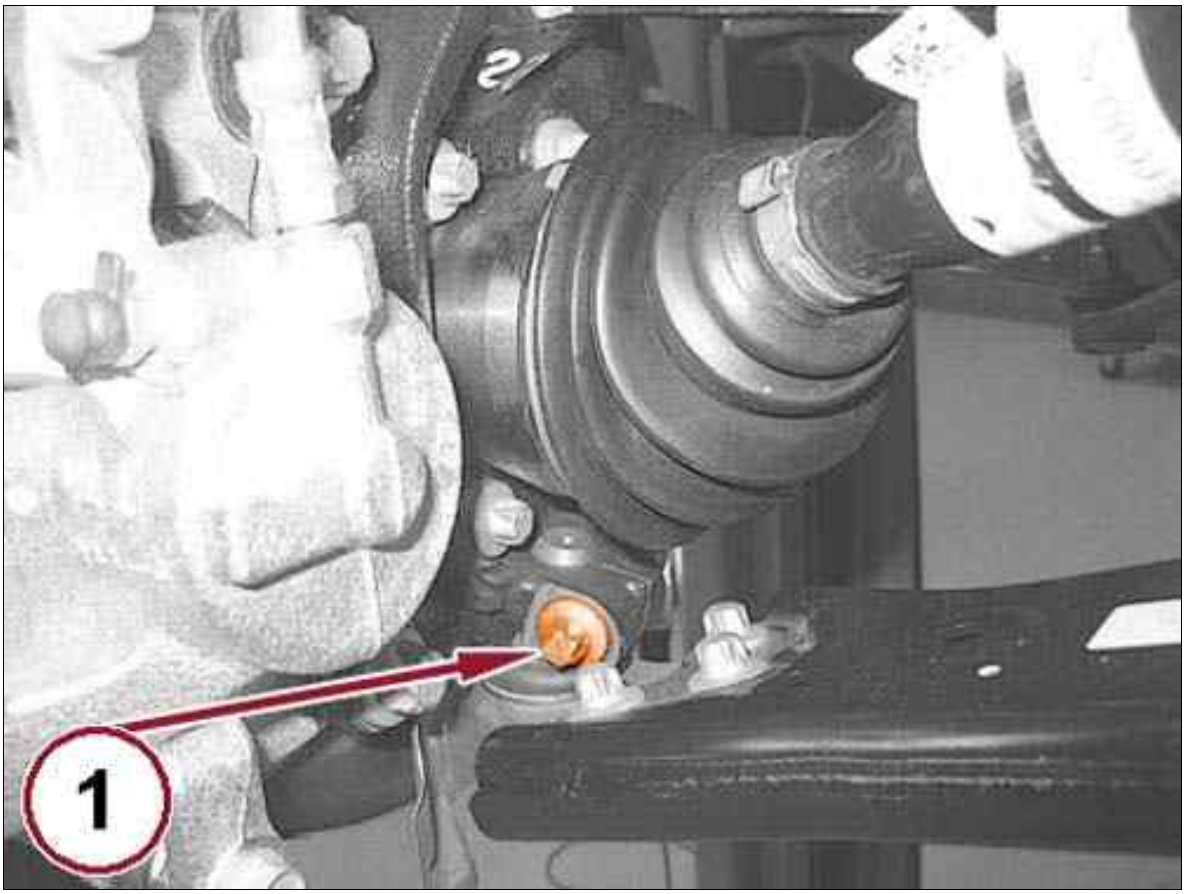
Inspect both lower control arm isolator bushings for severe deterioration and replace the lower control arm as required.

FRONT > ARM, LOWER CONTROL > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > REMOVAL

1. Raise and support the vehicle. Refer to HOISTING, STANDARD PROCEDURE .
2. Remove the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
3. Remove the lower load beam. Refer to FRAME .
4. Remove the front stabilizer bar links. Refer to LINK, STABILIZER BAR, REMOVAL AND INSTALLATION .

5. Remove the front hub nut. Refer to HUB AND BEARING, REMOVAL AND INSTALLATION .
6. Remove the outer tie rod end from the knuckle. Refer to GEAR .

Fig 1: Lower Control Arm To Knuckle Bolt

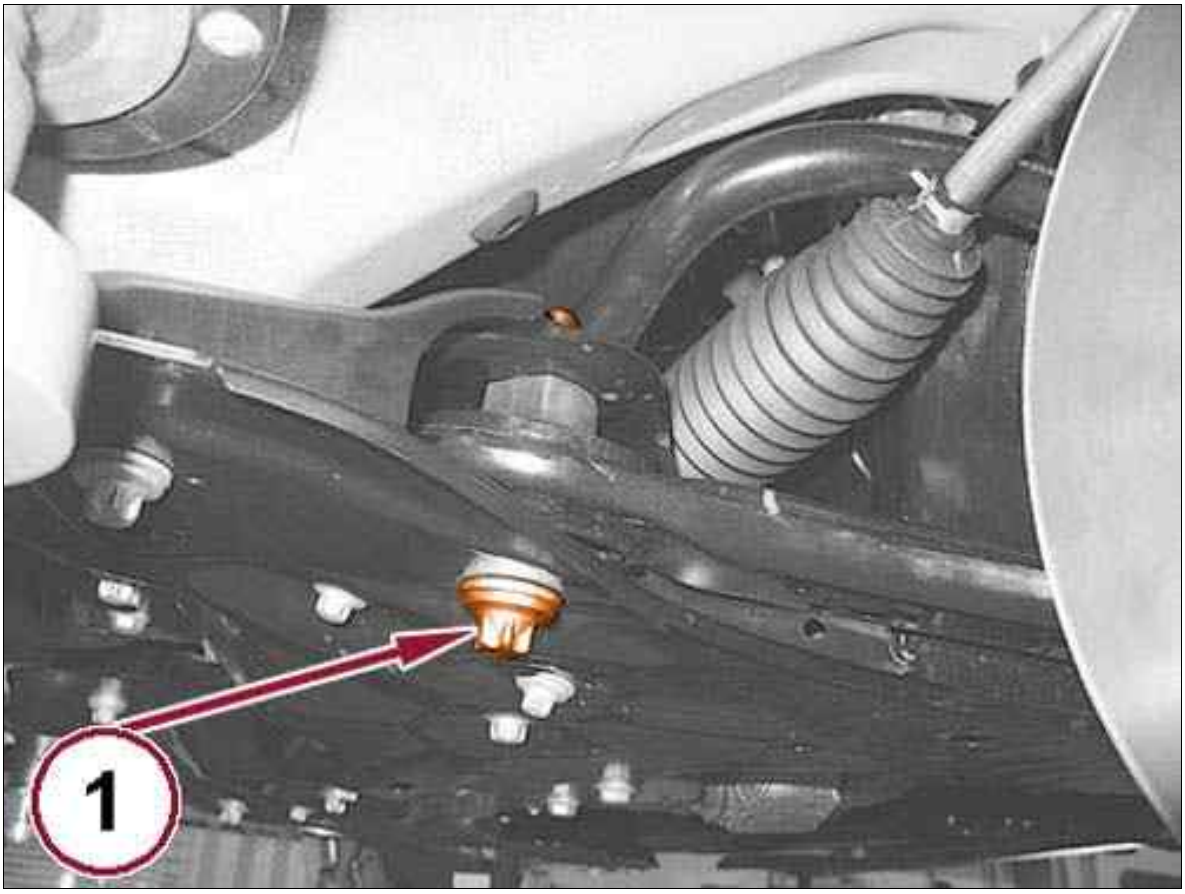


Courtesy of CHRYSLER GROUP, LLC

7. Remove the lower control arm to knuckle bolt (1), and remove the knuckle from the lower control arm.
8. Remove the halfshaft from the hub and bearing.

> *NOTE:*
>
> *Properly support halfshaft.*

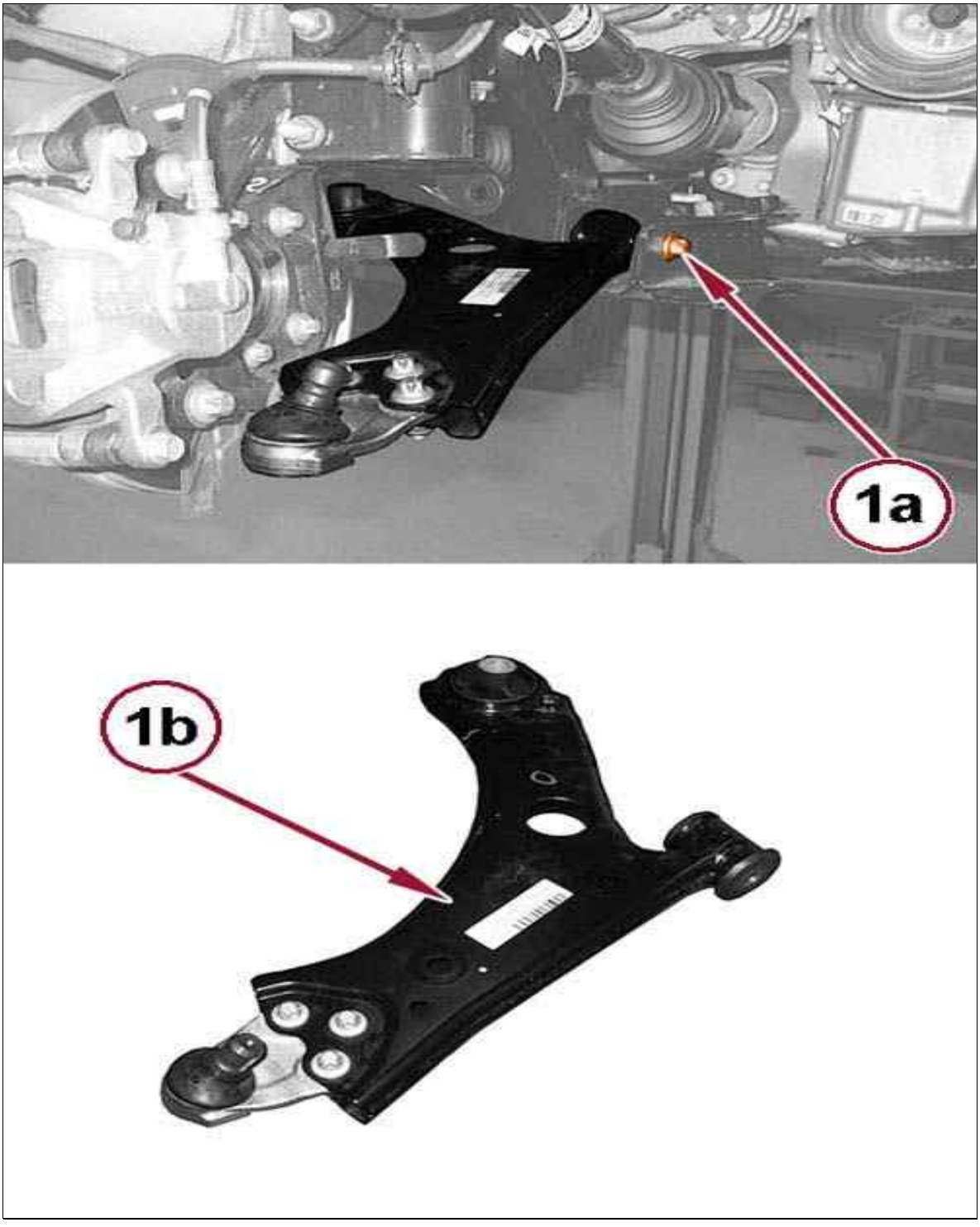
Fig 2: Lower Control Arm To Cradle Rear Bolt



Courtesy of CHRYSLER GROUP, LLC

9. Remove the lower control arm to cradle rear bolt (1).

Fig 3: Lower Control Arm & Cradle Front Bolt

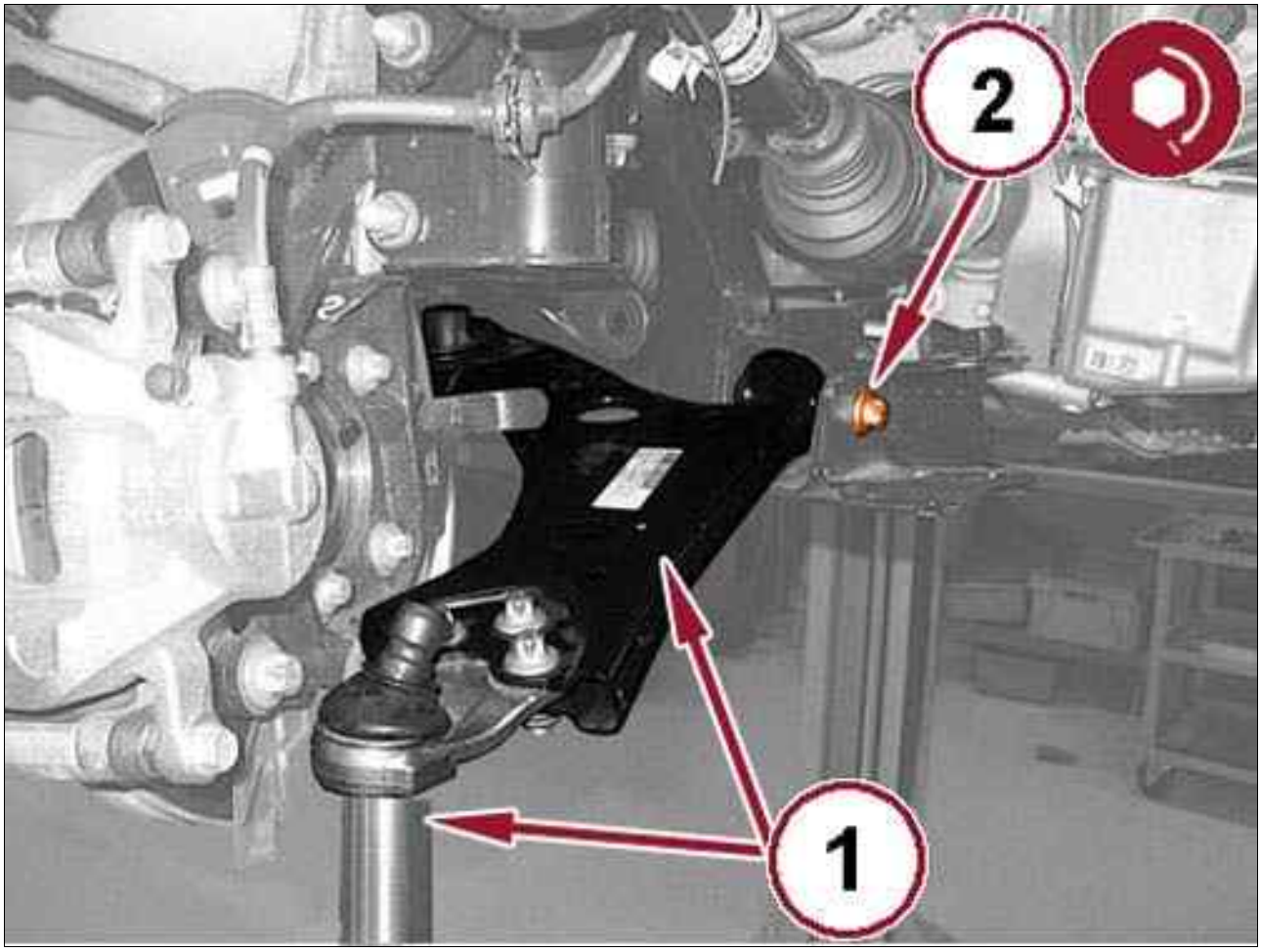


Courtesy of CHRYSLER GROUP, LLC

10. Remove the lower control arm to cradle front bolt (1a), and remove the lower control arm (1b) from the vehicle.

FRONT > ARM, LOWER CONTROL > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > INSTALLATION

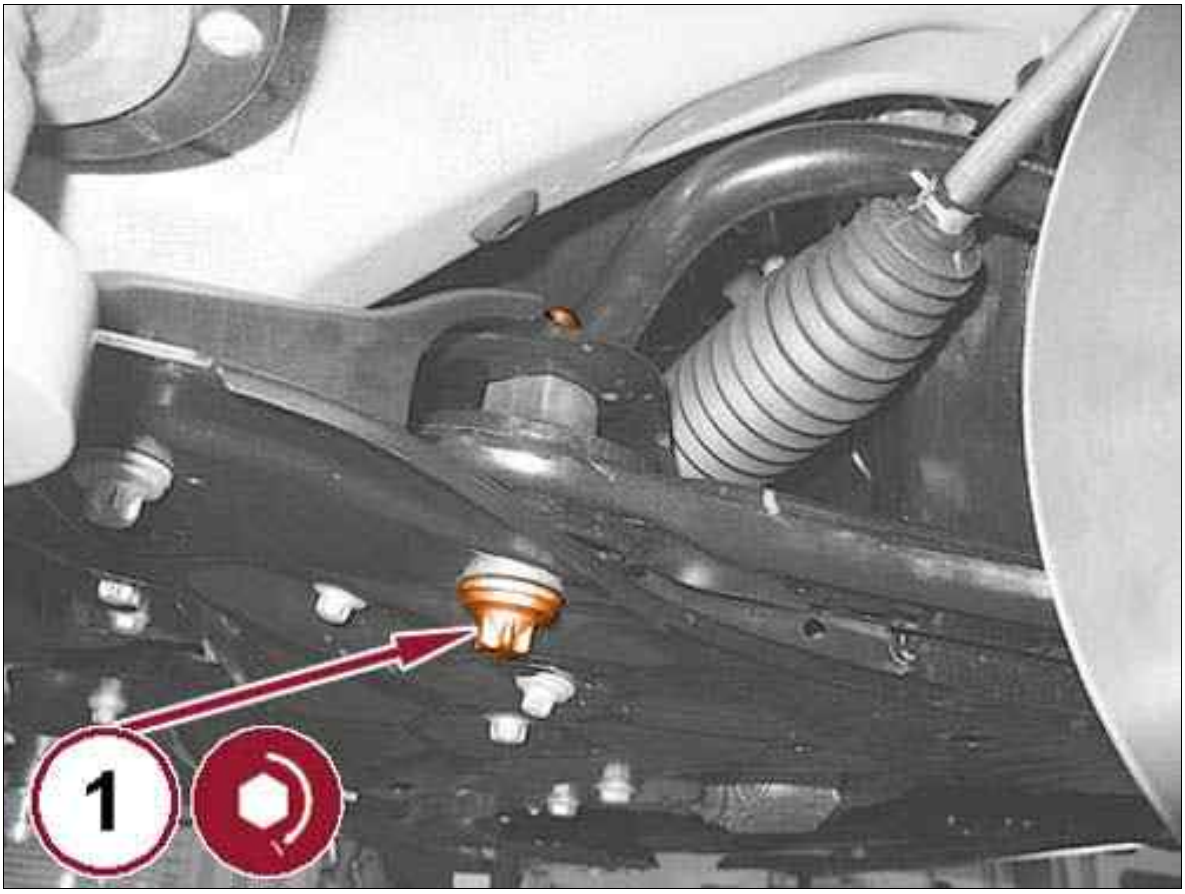
Fig 1: Installing Lower Control Arm & Cradle Front Bolt



Courtesy of CHRYSLER GROUP, LLC

1. Position the lower control arm (1) in the vehicle, and hold into position with hydraulic jack.
2. Install the lower control arm to cradle front bolt (2), and tighten to the proper specification. Refer to FRONT, SPECIFICATIONS .

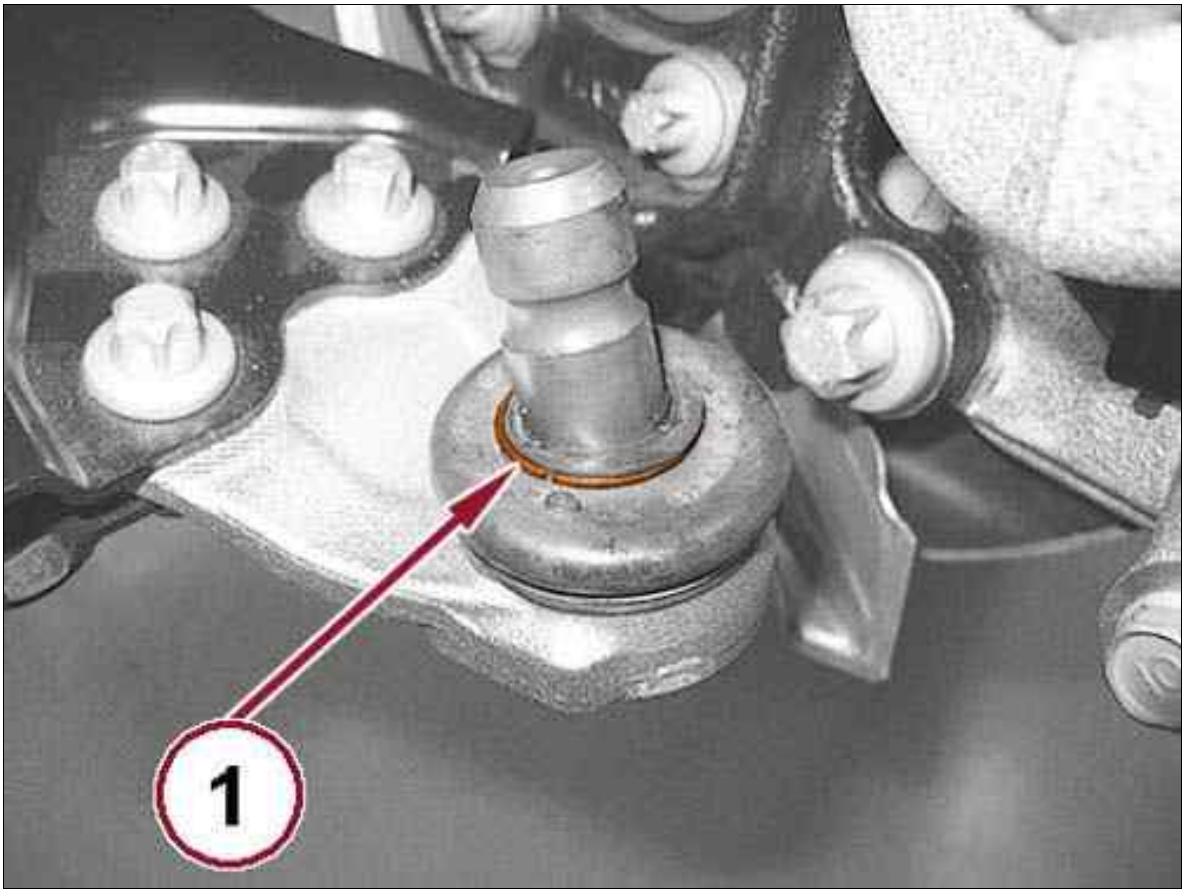
Fig 2: Lower Control Arm To Cradle Rear Bolt



Courtesy of CHRYSLER GROUP, LLC

3. Install the lower control arm to cradle rear bolt (1), and tighten to the proper specification. Refer to FRONT, SPECIFICATIONS .

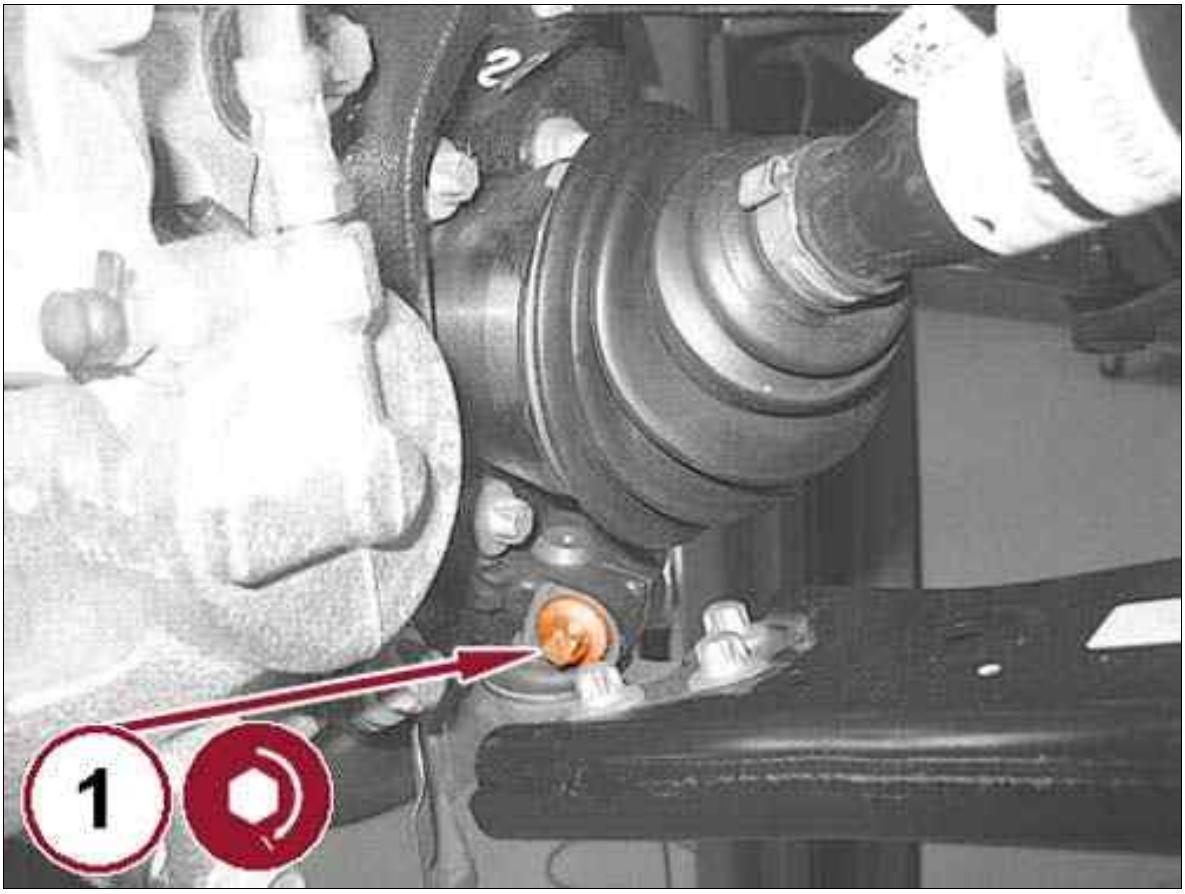
Fig 3: Boot Tension Ring



Courtesy of CHRYSLER GROUP, LLC

4. Check the integrity of the lower ball joint boot ring (1).

Fig 4: Lower Control Arm To Knuckle Bolt



Courtesy of CHRYSLER GROUP, LLC

5. Install the lower control arm to knuckle bolt (1), and tighten to the proper specification. Refer to FRONT, SPECIFICATIONS .
6. Install the outer tie rod end to the knuckle. Refer to GEAR, REMOVAL AND INSTALLATION .
7. Install the front hub nut. Refer to HUB AND BEARING, REMOVAL AND INSTALLATION .
8. Install the front stabilizer bar links. Refer to LINK, STABILIZER BAR, REMOVAL AND INSTALLATION .
9. Install the lower load beam. Refer to FRAME .
10. Install the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
11. If necessary, perform a wheel alignment. Refer to WHEEL ALIGNMENT, STANDARD PROCEDURE .
12. Install the under body splash shield. Refer to BELLY PAN, REMOVAL AND INSTALLATION .

FRONT > HUB AND BEARING > DIAGNOSIS AND TESTING > DIAGNOSIS AND TESTING - HUB BEARING - NOISE

NOTE:

The wheel bearing is designed to last for the life of the vehicle and requires no type of periodic maintenance. If it becomes necessary to replace a faulty bearing, do not replace in pairs unless the Service Information specifically states to do so.

Bearings will produce noise if worn or damaged. The noise will generally change when the bearings are loaded. A road test of the vehicle is normally required to determine if there is a bearing noise, or if it is some other component. To assist in finding the location, the following procedure, together with the **DIAGNOSTIC TABLE** , should help determine if a bearing is causing the noise, and if so which one. Keep in mind that bearing noises are not typically intermittent. If a particular vehicle road test maneuver results in noise only part of the time, it is not likely a faulty bearing.

NOTE:

Damaged bearing seals and the resulting excessive grease loss may also require bearing replacement. Moderate grease seepage from the bearing is considered normal and should not require replacement of the wheel bearing. To diagnose the hub, measure hub runout.

FRONT > HUB AND BEARING > DIAGNOSTIC PROCEDURE

1. Perform a drive evaluation. Find a smooth level road surface void of traffic or obstructions. Turn off any accessories which may cause background noise. Evaluate for noise at 50 km/h (30 mph) and 100 km/h (60 mph) and with vehicle in neutral to eliminate potential drivetrain noises. With vehicle at a constant speed, steer back and forth to left and right. This will load and unload the bearings and may change the noise level. When bearing damage is slight, the noise is sometimes noticeable at lower speeds and at other times is more noticeable at higher speeds.

2. Drive evaluation results: Did the noise increase when turning right which may indicate a problem with the left bearing? Did the noise increase when turning left which may indicate a problem with the right bearing?

3. Put vehicle up on hoist. Grab the tire by pushing in on the top center and pulling out on the bottom center to check for excessive movement in the bearing.

4. Check for potential rubbing on rotating components, such as rotor splash shields, heat shields touching propshaft or halfshaft, wheel well liners contacting tire, wheel cover on wheel, etc. Any cyclic noise (once per wheel revolution for example) is not a wheel bearing fault.

5. Remove the wheel and tire assembly, disc brake caliper and brake rotor. Refer to ROTOR, BRAKE, REMOVAL AND INSTALLATION .

6. Rotate the wheel hub, checking for resistance or roughness.

7. Any roughness or resistance to rotation may indicate dirt intrusion or a failed hub bearing. If the bearing exhibits any of these conditions, the hub & bearing will require replacement. Do not attempt to disassemble the bearing for repair.

8. Rotate the wheel hub, utilize Chassis Ears (or stethoscope) to check for noise.
9. If none of the above checks indicate a bearing failure, refer to the **DIAGNOSTIC TABLE** for other possible causes.

DIAGNOSTIC TABLE - HUB BEARING

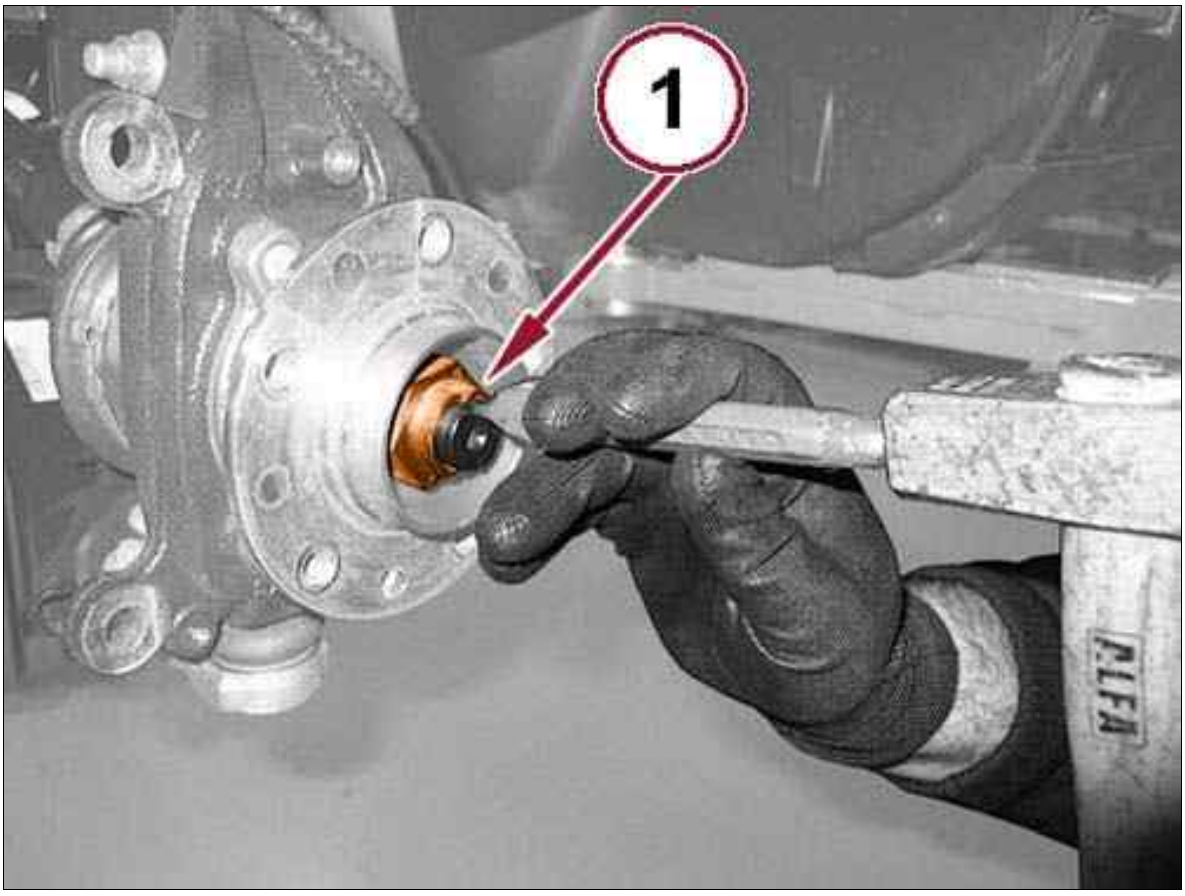
CONDITION	POSSIBLE CAUSES	POTENTIAL CORRECTIONS
FRONT END WHINE ON TURNS	1. Low Power Steering Fluid Level (if applicable)	1. Fill power steering fluid reservoir to proper level, check for leaks (make sure all air is bled from system fluid)
	2. Worn Tires and/or Incorrect Wheel Alignment	2. Replace Tires, Check And Reset Wheel Alignment
	3. Defective Wheel Bearing	3. Replace Wheel Bearing
	4. Wrong Power Steering Fluid (if applicable)	4. Replace With Correct Power Steering Fluid
FRONT END GROWL OR GRINDING ON TURNS	1. Loose Wheel Lug Nuts	1. Verify Wheel Lug Nut Torque
	2. Engine Mount Grounding Against Frame Or Body Of Vehicle	2. Check For Engine Mount Hitting Frame Rail And Reposition Engine As Required
	3. Worn Tires and/or Incorrect Wheel Alignment	3. Replace Tires, Check and Reset Wheel Alignment
	4. Defective Wheel Bearing	4. Replace Wheel Bearing
	5. Worn or Broken C/V Joint	5. Replace C/V Joint
	6. Engine Not Centered, Causing Axle Half Shaft to Bottom Out	6. Center the Engine
POPPING/CLICKING/SNAPPING DURING ACCELERATION AFTER DRIVE-TO-REVERSE SHIFT, REVERSE-TO-DRIVE SHIFT OR WHILE TURNING	1. Insufficient Hub Nut Torque	1. Torque Hub Nut to Spec
	2. Insufficient Grease on Mating Surface of Axle Half Shaft Outer C/V Joint to Wheel Hub/Bearing, or Worn/Damaged Gasket	2. Separate Half Shaft From Hub and Bearing and Wipe Mating Surfaces Clean. Apply Light Coating of Wheel Bearing Grease to C/V Joint Surface and Reassemble, or Replace Gasket. Torque Hub Nut to Spec
WHINE/HUM/ROAR WITH VEHICLE GOING STRAIGHT AT A CONSTANT SPEED	1. Worn Tires and/or Incorrect Wheel Alignment	1. Replace Tires and Reset Wheel Alignment
	2. Defective Wheel Bearing	2. Replace Wheel Bearing
GROWL OR GRINDING WITH VEHICLE GOING STRAIGHT AT A CONSTANT SPEED	1. Engine Mount Grinding Against Frame or Body	1. Check and Reposition Engine as Required
	2. Defective Wheel Bearing	2. Replace Wheel Bearing

	3. Worn or Broken C/V Joint	3. Replace C/V Joint

FRONT > HUB AND BEARING > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > REMOVAL

1. Raise and support the vehicle. Refer to HOISTING, STANDARD PROCEDURE .
2. Remove the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
3. Remove the front brake rotor. Refer to ROTOR, BRAKE, REMOVAL AND INSTALLATION .

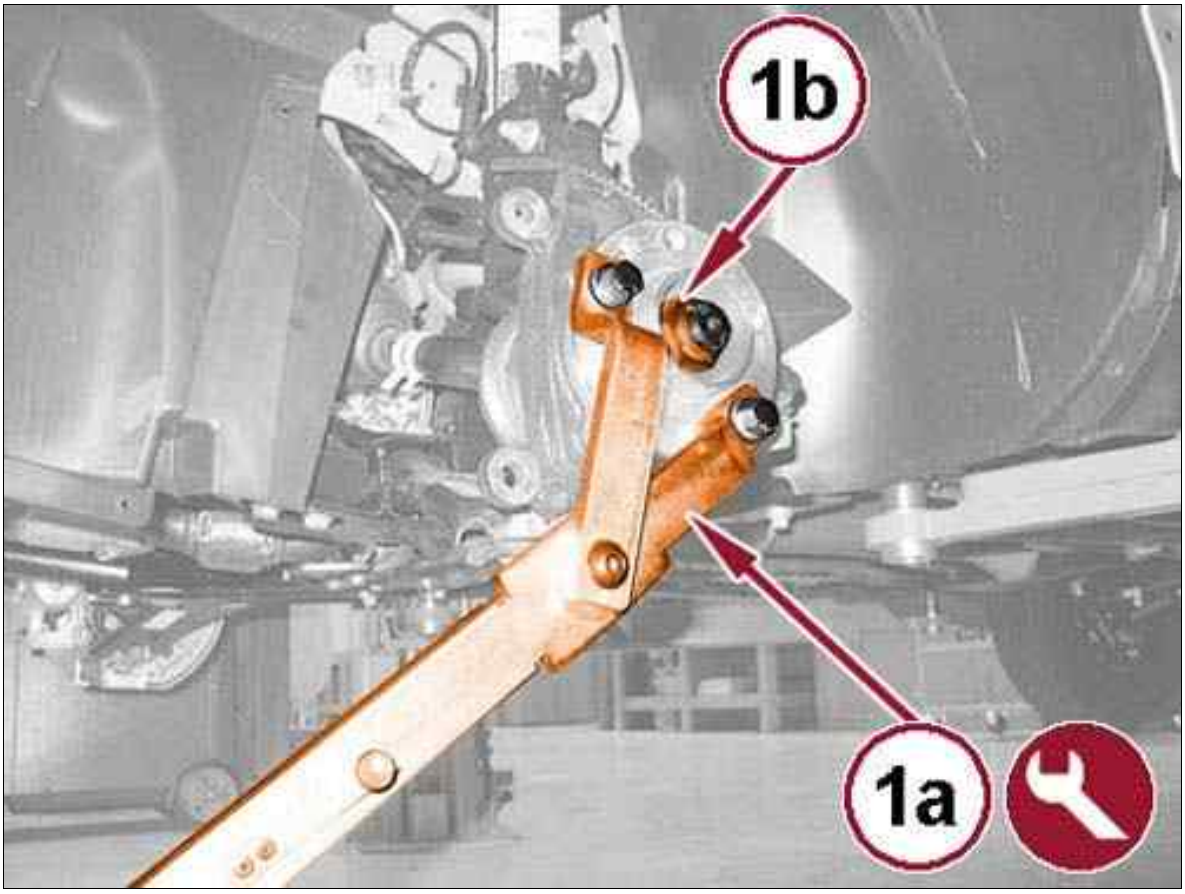
Fig 1: Unstaking Hub Nut



Courtesy of CHRYSLER GROUP, LLC

4. With the appropriate tool, unstake the hub nut (1).

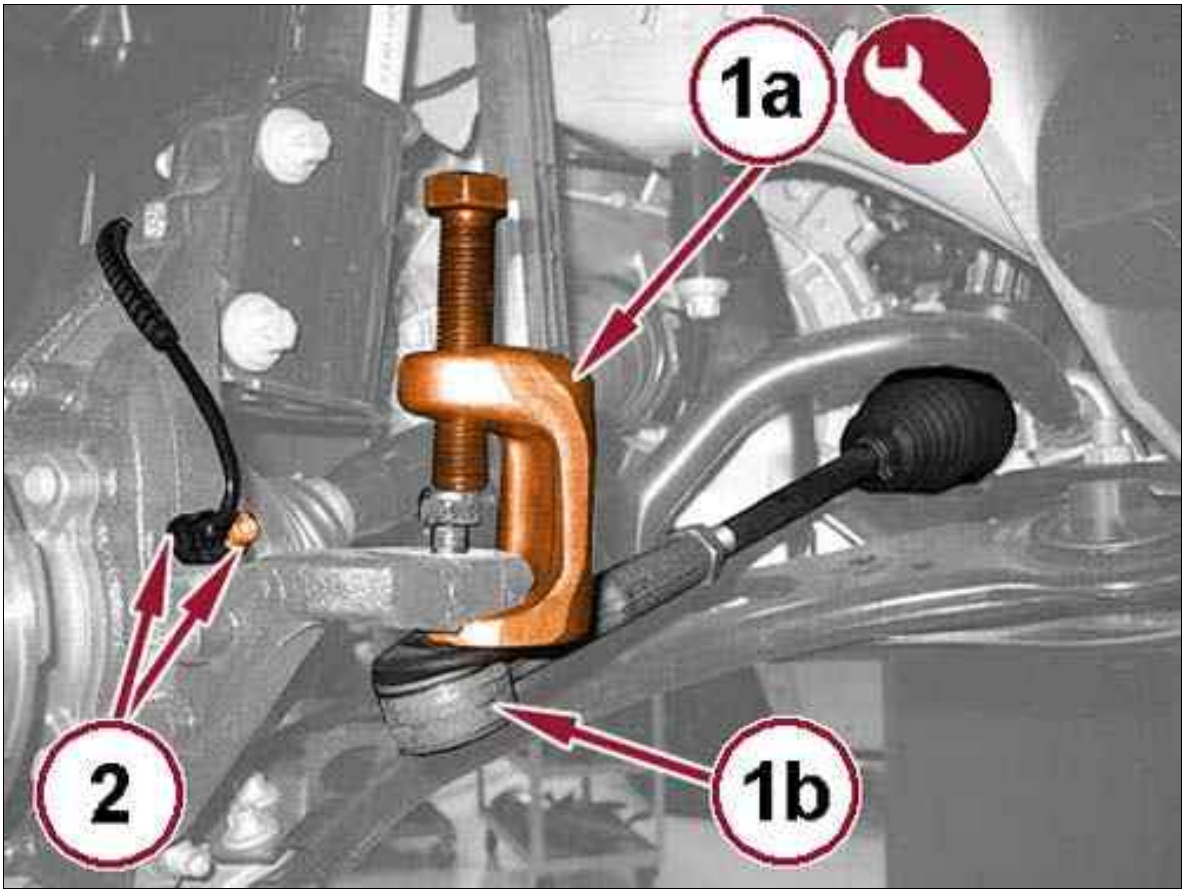
Fig 2: Hub Nut & Special Tool



Courtesy of CHRYSLER GROUP, LLC

5. Install the special tool 1870815000 (1a), and remove the hub nut (1b).

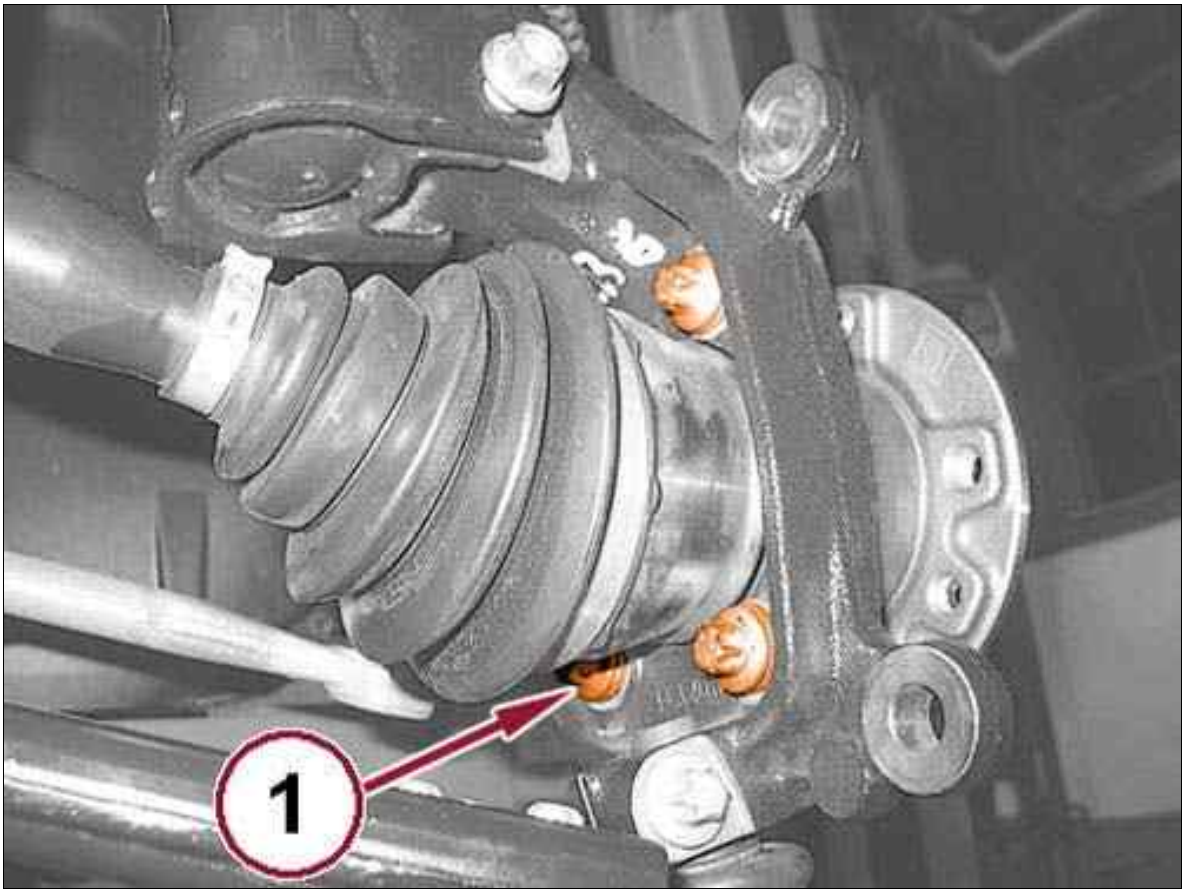
Fig 3: Removing Outer Tie Rod From Knuckle



Courtesy of CHRYSLER GROUP, LLC

6. Remove the outer tie rod end (1b) from the knuckle. Refer to GEAR .
7. Remove the wheel speed sensor to knuckle bolt (2), and remove the wheel speed sensor head from the knuckle.

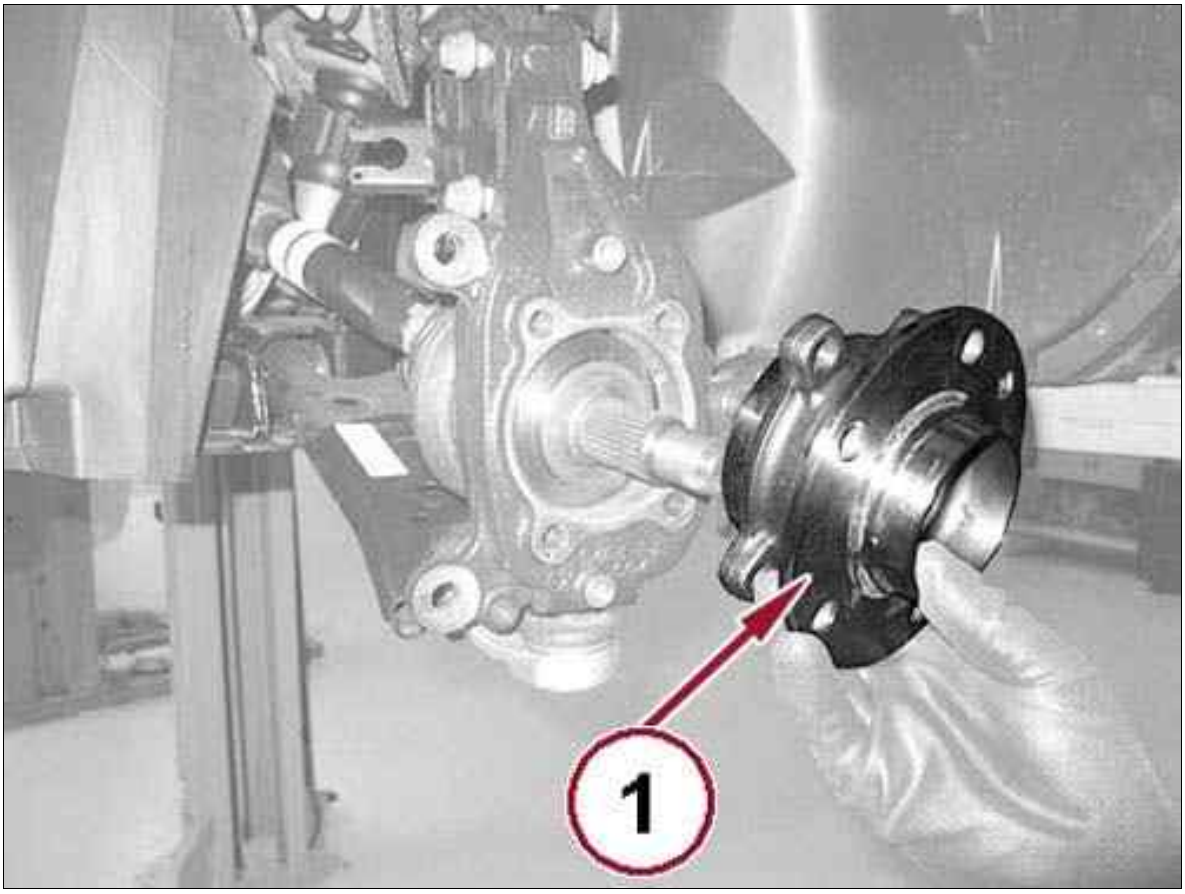
Fig 4: Hub And Bearing Bolts



Courtesy of CHRYSLER GROUP, LLC

8. Remove the hub and bearing bolts (1).

Fig 5: Hub And Bearing

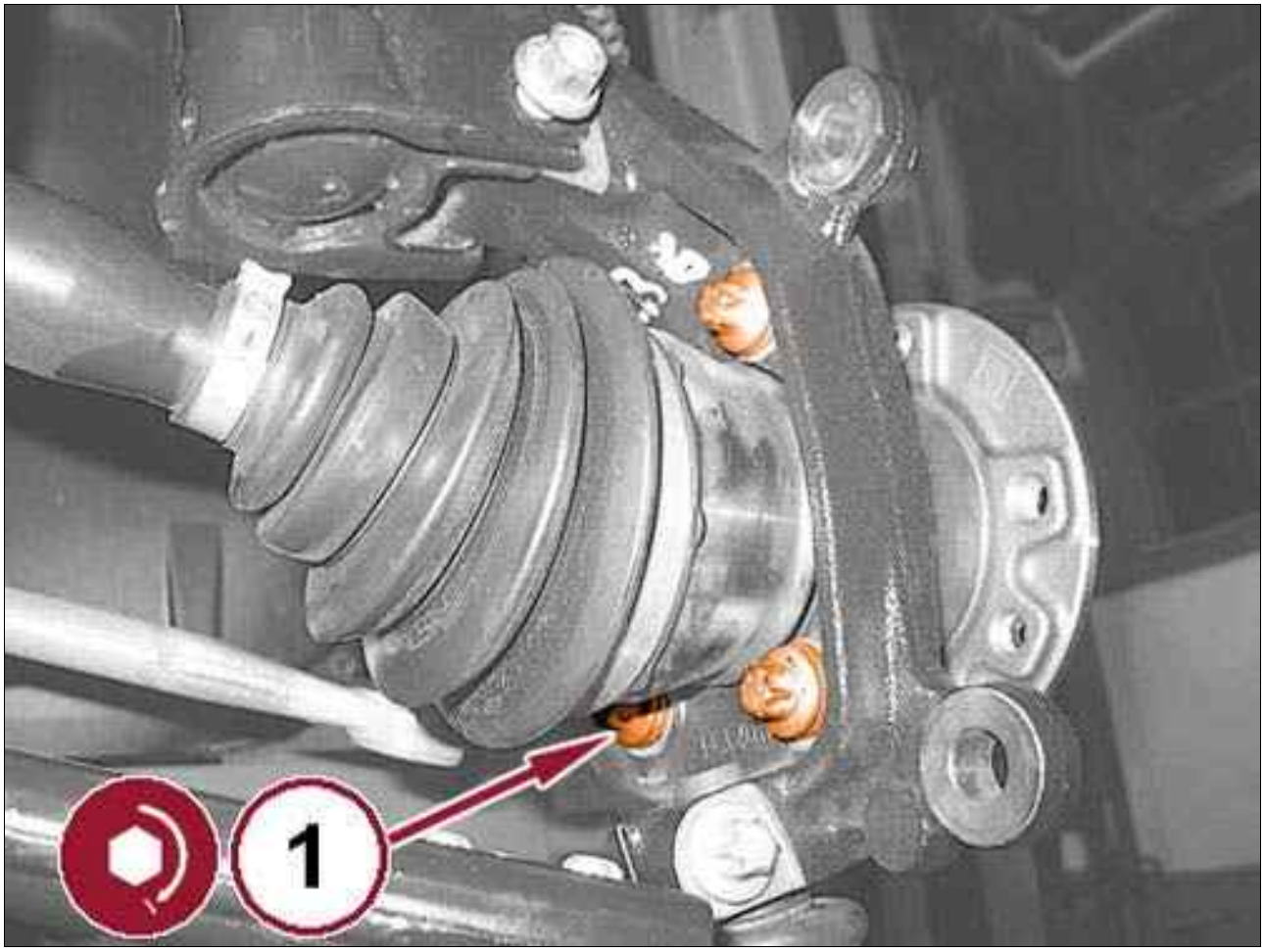


Courtesy of CHRYSLER GROUP, LLC

9. Remove the hub and bearing (1) from the knuckle.
10. Check that the internal surfaces of the front steering knuckle for wear or damage. Check the front steering knuckle arms for wear or damage. Install a new front steering knuckle, as necessary.

FRONT > HUB AND BEARING > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > INSTALLATION

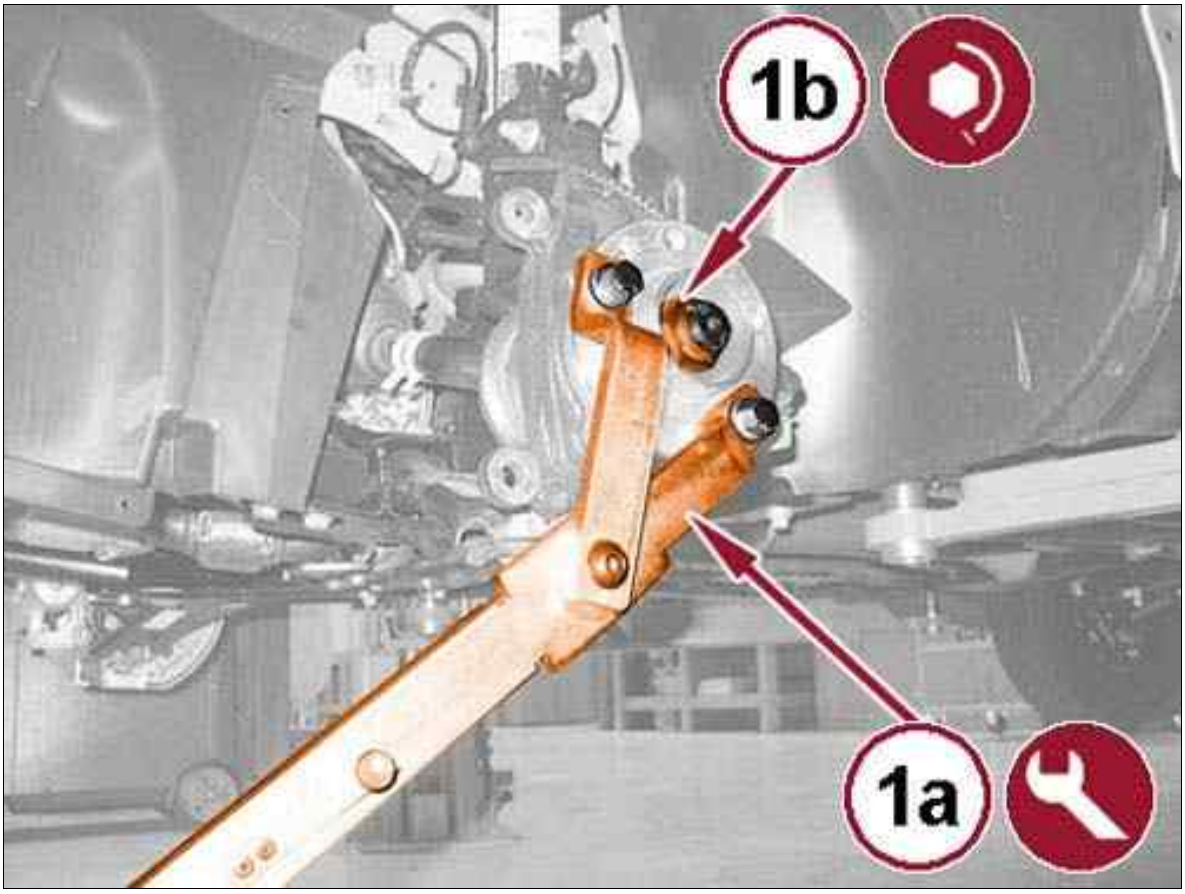
Fig 1: Hub And Bearing Bolts



Courtesy of CHRYSLER GROUP, LLC

1. Position the hub and bearing into the knuckle.
2. Tighten the hub and bearing bolts (1) to the proper specification. Refer to FRONT, SPECIFICATIONS .
3. Install the wheel speed sensor head into the knuckle, and tighten the wheel speed sensor to knuckle bolt to the proper specification. Refer to TORQUE SPECIFICATIONS .
4. Install the outer tie rod end into the knuckle. Refer to GEAR .

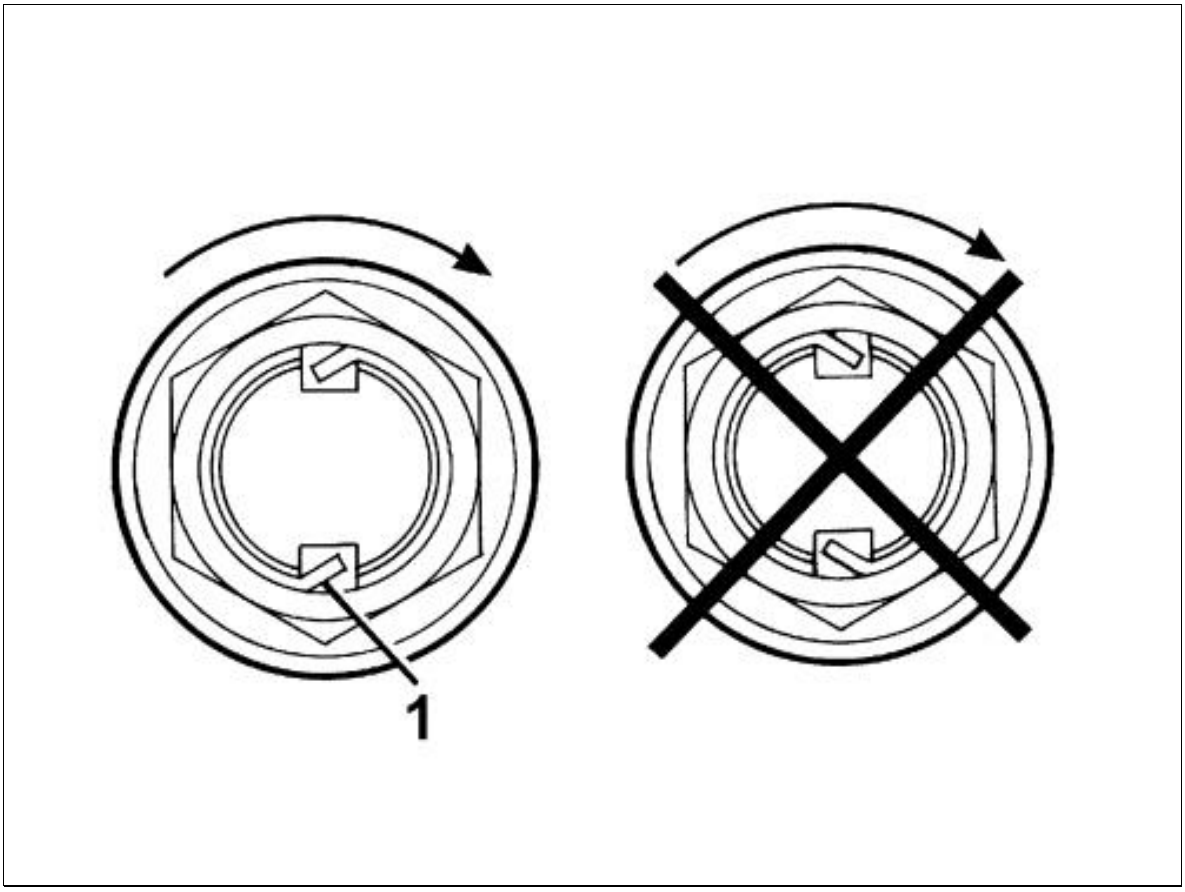
Fig 2: Hub Nut & Special Tool



Courtesy of CHRYSLER GROUP, LLC

5. Install the special tool 1870815000 (1a), and install the **NEW** hub nut (1b) to the proper specification. Refer to FRONT, SPECIFICATIONS .

Fig 3: Correct Hub Nut Staking



Courtesy of CHRYSLER GROUP, LLC

6. Stake the hub nut as shown in illustration with special tool (special tool #10287-1, Tool, Staking).
7. Install the front brake rotor. Refer to ROTOR, BRAKE, REMOVAL AND INSTALLATION .
8. Install the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
9. Remove the support and lower the vehicle.

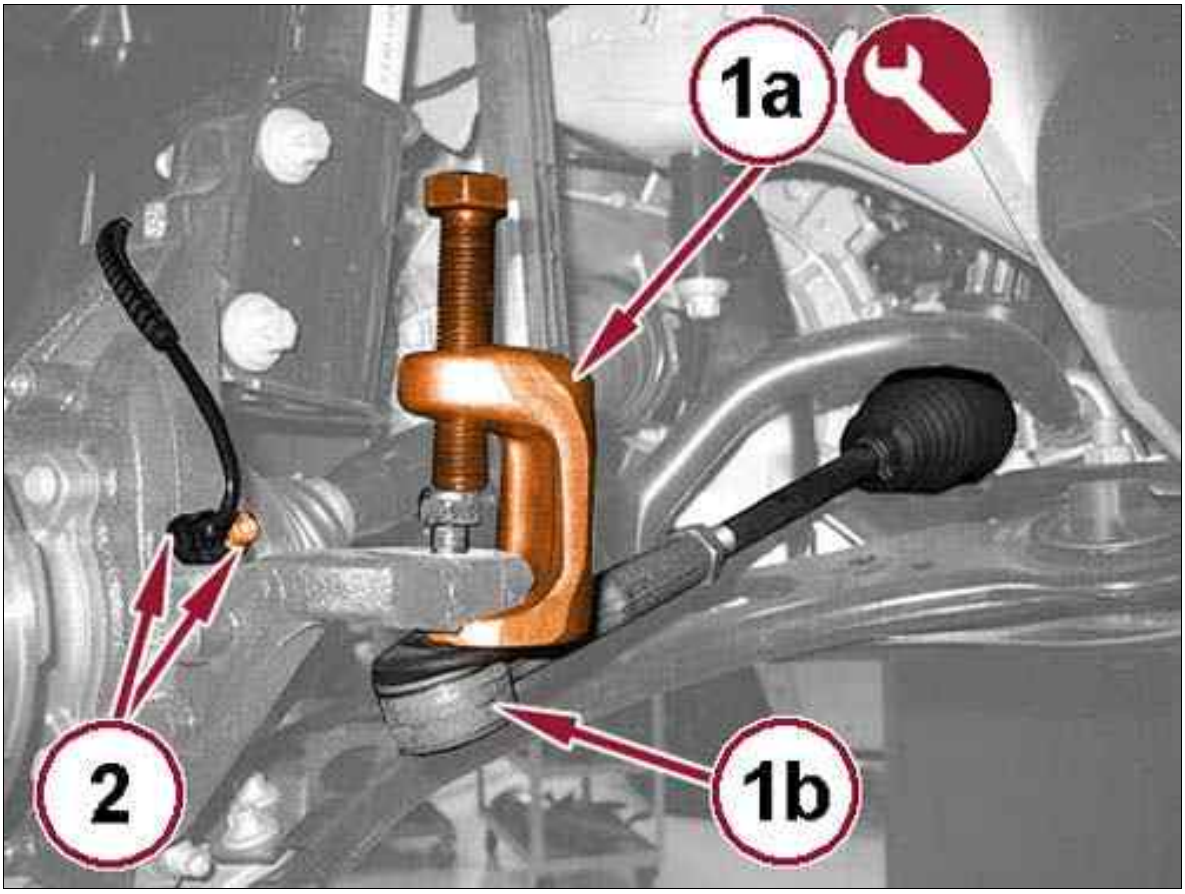
FRONT > KNUCKLE, STEERING > DIAGNOSIS AND TESTING > DIAGNOSIS AND TESTING - KNUCKLE

The front suspension knuckle is not a repairable component of the front suspension. It must be replaced if found to be damaged in any way. If it is determined that the knuckle is bent when servicing the vehicle, no attempt is to be made to straighten the knuckle.

FRONT > KNUCKLE, STEERING > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > REMOVAL

1. Raise and support the vehicle. Refer to HOISTING, STANDARD PROCEDURE .
2. Remove the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
3. Remove the front brake rotor. Refer to ROTOR, BRAKE, REMOVAL AND INSTALLATION .
4. Remove the hub nut. Refer to HUB AND BEARING, REMOVAL AND INSTALLATION .

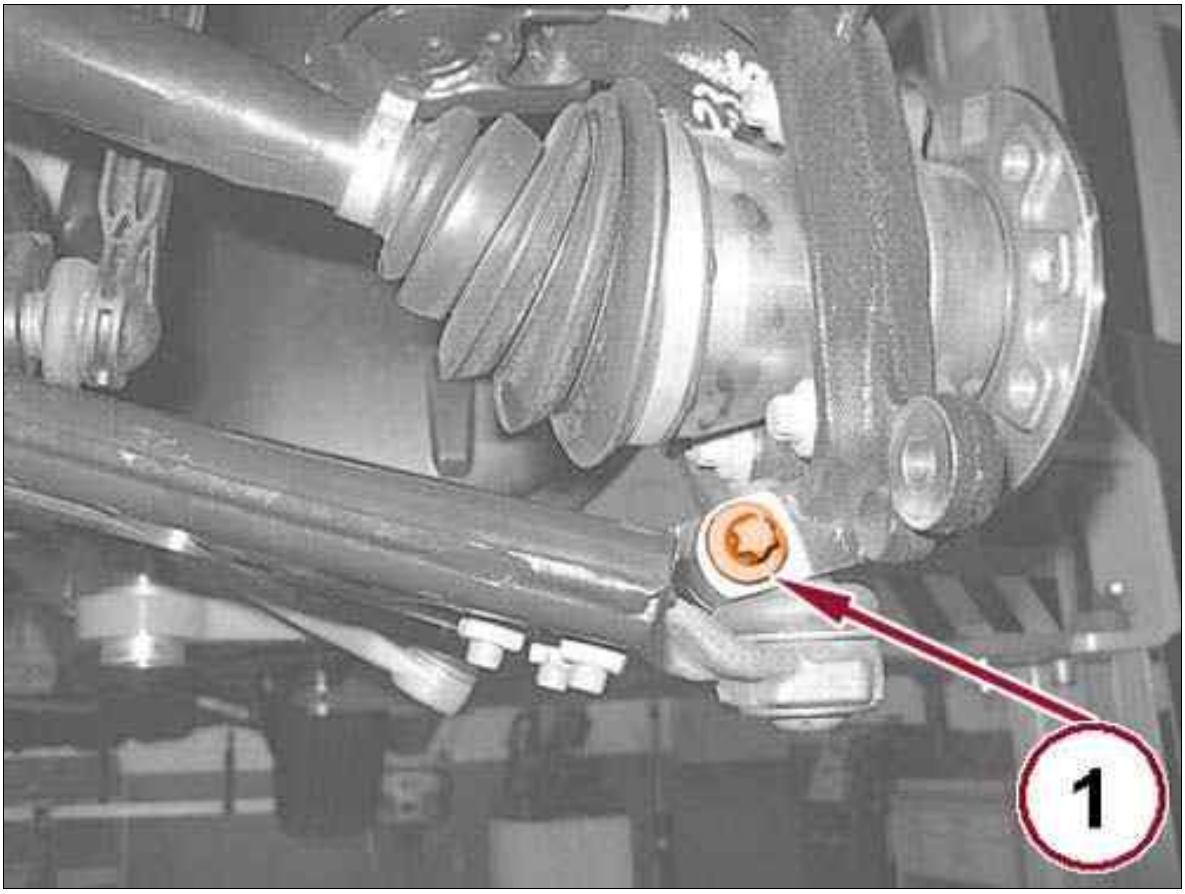
Fig 1: Removing Outer Tie Rod From Knuckle



Courtesy of CHRYSLER GROUP, LLC

5. Remove the outer tie rod end (1b) from the steering knuckle. Refer to GEAR .
6. Remove the wheel speed sensor to knuckle bolt (2), and remove the wheel speed sensor.

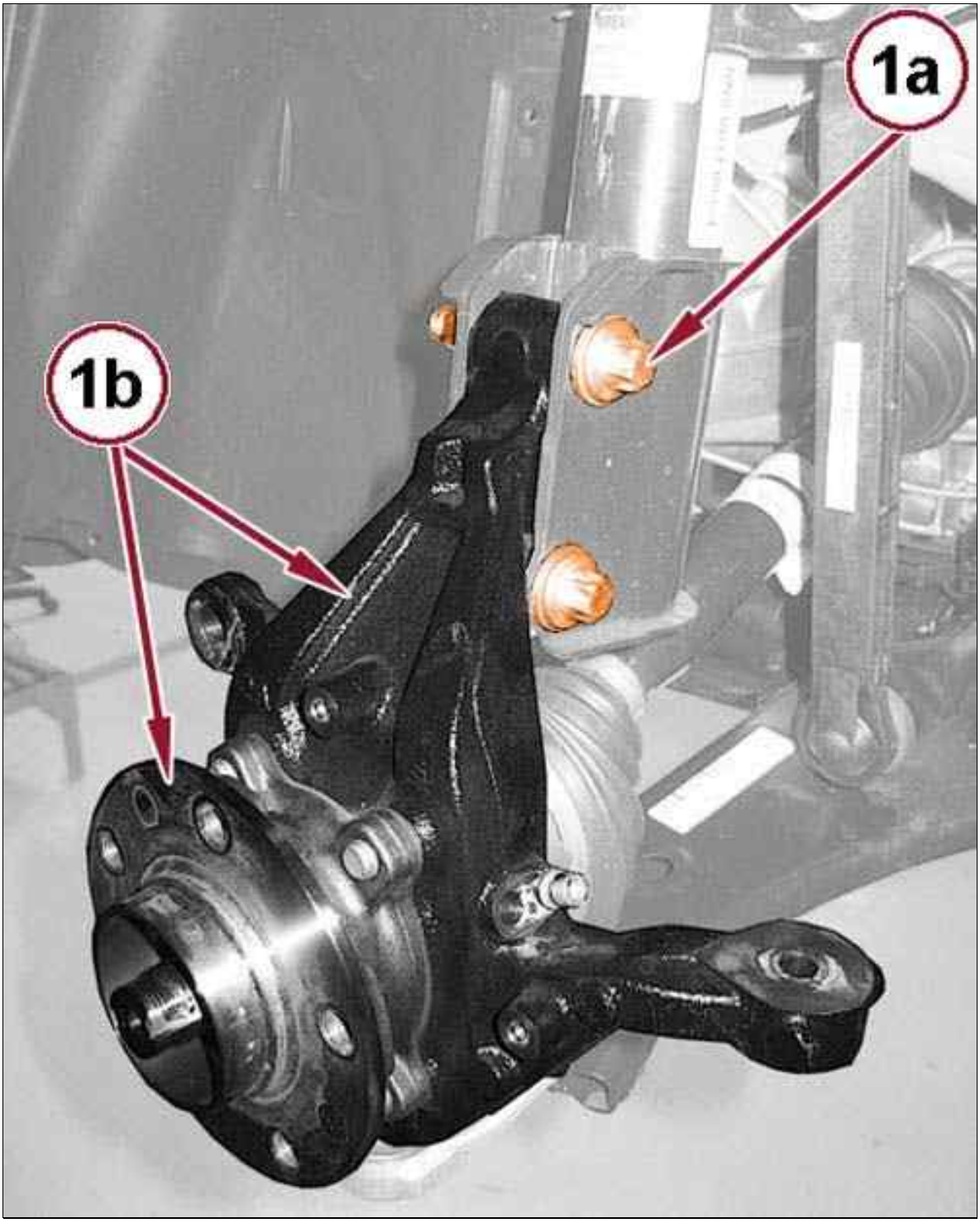
Fig 2: Lower Control Arm To Knuckle Bolt



Courtesy of CHRYSLER GROUP, LLC

7. Remove the lower control arm to knuckle bolt (1).

Fig 3: Steering Knuckle & Strut Bolts

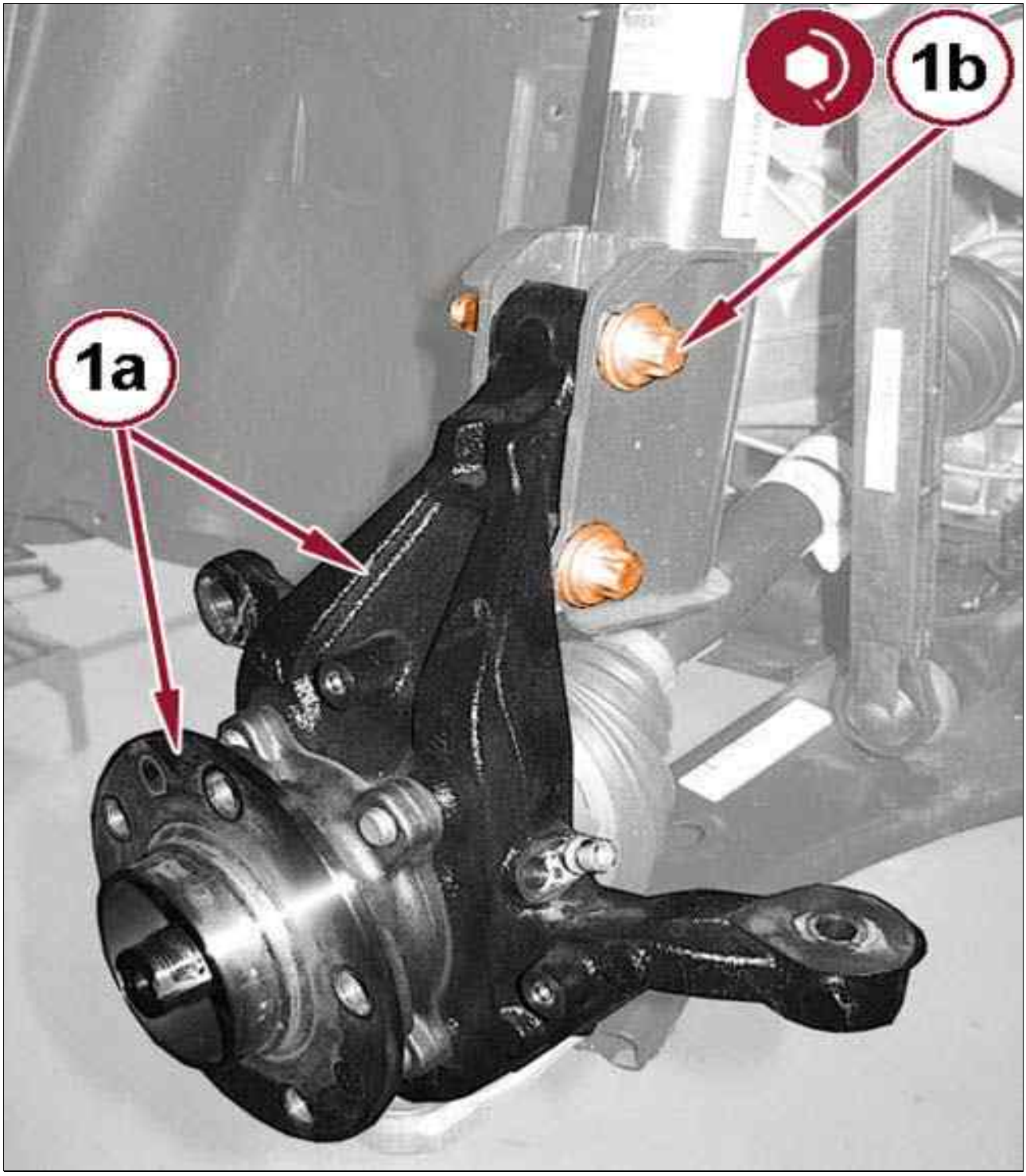


Courtesy of CHRYSLER GROUP, LLC

8. Remove the strut to knuckle bolts (1a).
9. Remove the steering knuckle (1b) from the vehicle.
10. If necessary, transfer the remaining parts.

FRONT > KNUCKLE, STEERING > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > INSTALLATION

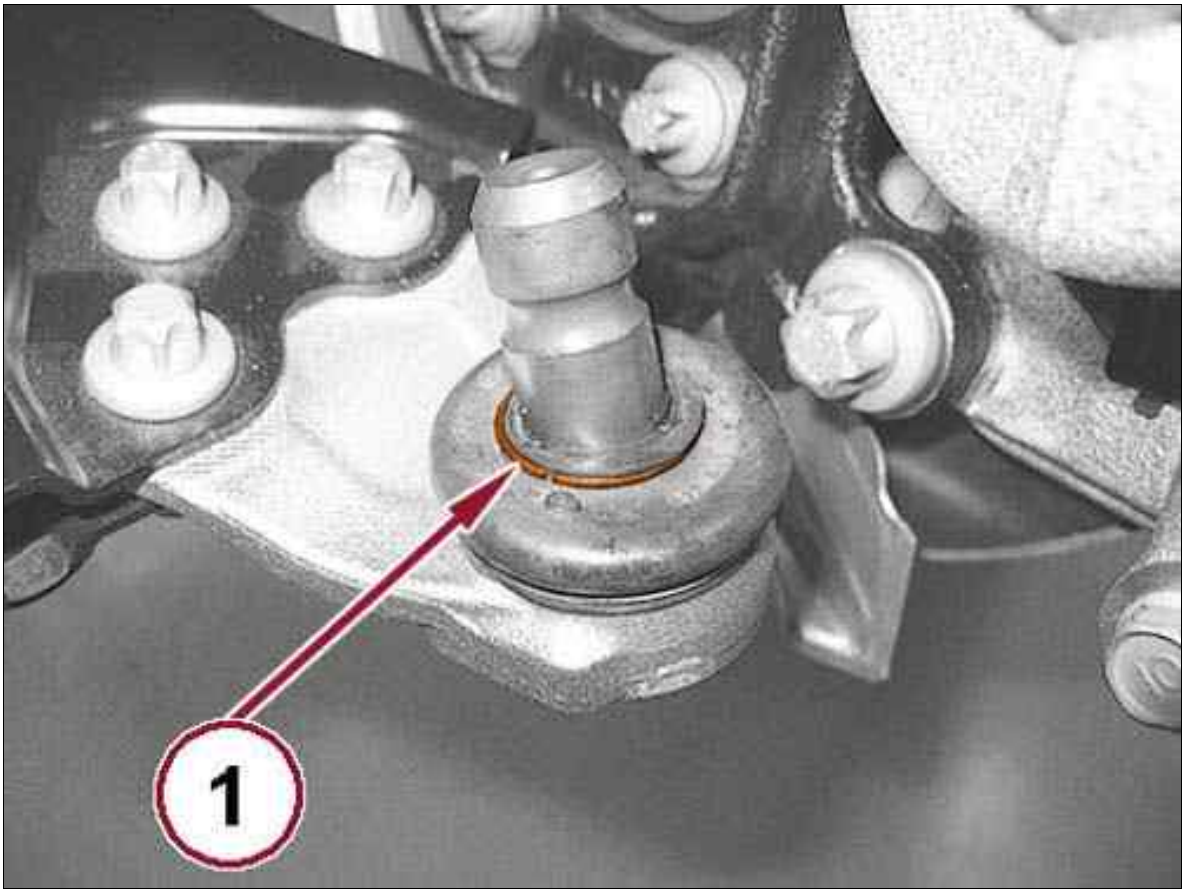
Fig 1: Steering Knuckle & Strut Bolts



Courtesy of CHRYSLER GROUP, LLC

1. Position the steering knuckle (1a) assembly in the vehicle.
2. Align the steering knuckle to the front strut and install the strut to knuckle bolts (1b). Tighten the bolts to the proper specification. Refer to FRONT, SPECIFICATIONS .

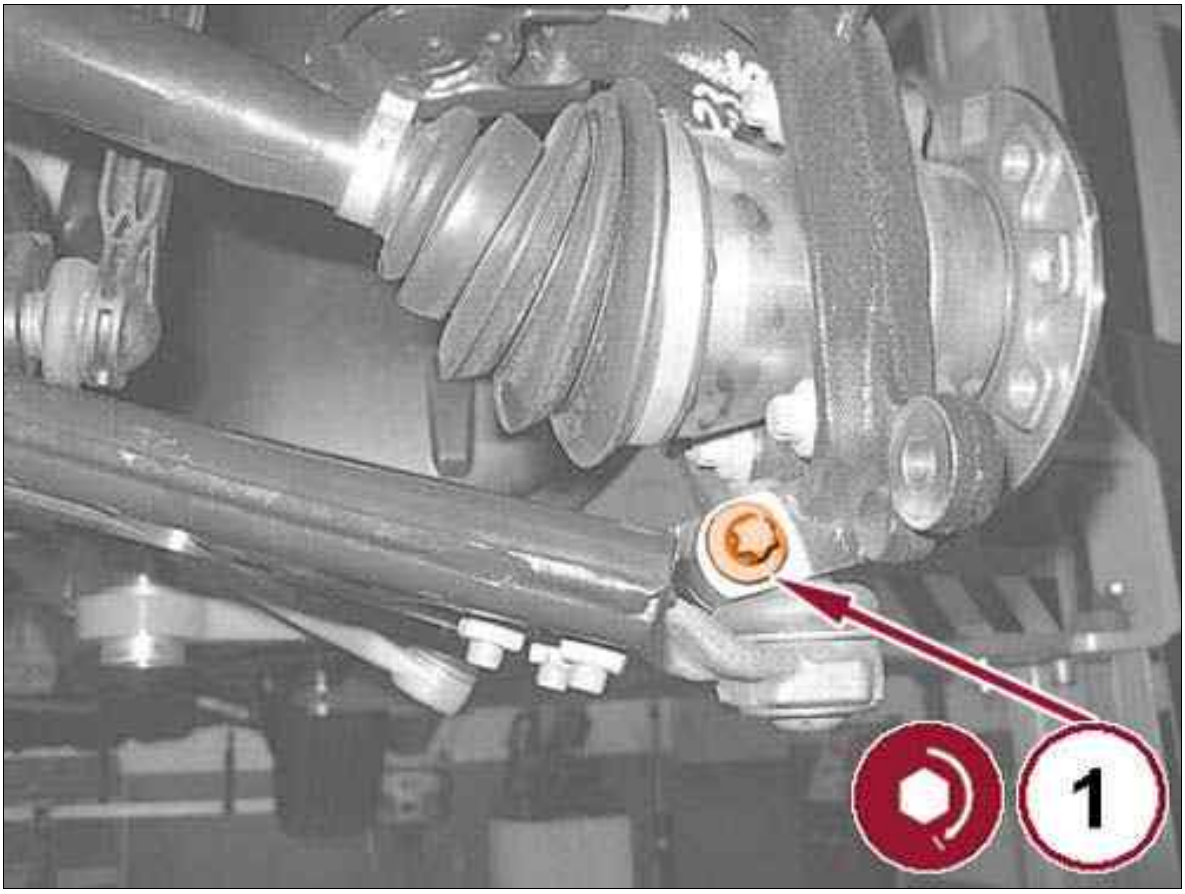
Fig 2: Boot Tension Ring



Courtesy of CHRYSLER GROUP, LLC

3. Check the integrity of the lower ball joint boot closure ring (1).

Fig 3: Lower Control Arm To Knuckle Bolt



Courtesy of CHRYSLER GROUP, LLC

4. Install the lower control arm to the knuckle, and tighten the lower control arm to knuckle nut (1) to the proper specification. Refer to FRONT, SPECIFICATIONS .
5. Install the wheel speed sensor head into the knuckle. Tighten the wheel speed sensor to knuckle bolt to the proper specification. Refer to FRONT, SPECIFICATIONS .
6. Install the outer tie rod end to the knuckle. Refer to GEAR .
7. Install the hub nut. Refer to HUB AND BEARING, REMOVAL AND INSTALLATION .
8. Install the brake rotor. Refer to ROTOR, BRAKE, REMOVAL AND INSTALLATION .
9. Install the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
10. Remove the support and lower the vehicle.

FRONT > LINK, STABILIZER BAR > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > REMOVAL

1. Raise and support the vehicle. Refer to HOISTING, STANDARD PROCEDURE .
2. Remove the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .

3. Remove the stabilizer bar link nut at the stabilizer bar. Separate the stabilizer bar link from the stabilizer bar.
4. Remove the stabilizer bar link nut at the front strut. Separate the stabilizer bar link from the front strut.
5. Remove the stabilizer bar link.

FRONT > LINK, STABILIZER BAR > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > INSTALLATION

1. Install the stabilizer bar link to the stabilizer bar and install the stabilizer bar link nut.
2. Install the stabilizer bar link to the front strut and install the stabilizer bar link nut.
3. Install the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
4. Remove the support and lower the vehicle.

FRONT > STABILIZER BAR, FRONT > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > REMOVAL

For the removal of the front stabilizer bar. Refer to CROSSMEMBER, FRONT SUSPENSION, REMOVAL AND INSTALLATION .

FRONT > STABILIZER BAR, FRONT > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > INSTALLATION

For the installation of the front stabilizer bar. Refer to CROSSMEMBER, FRONT SUSPENSION, REMOVAL AND INSTALLATION .

FRONT > STRUT, SUSPENSION, ASSEMBLY > DIAGNOSIS AND TESTING > DIAGNOSIS AND TESTING - STRUT ASSEMBLY

Inspect the strut assembly for the following conditions:

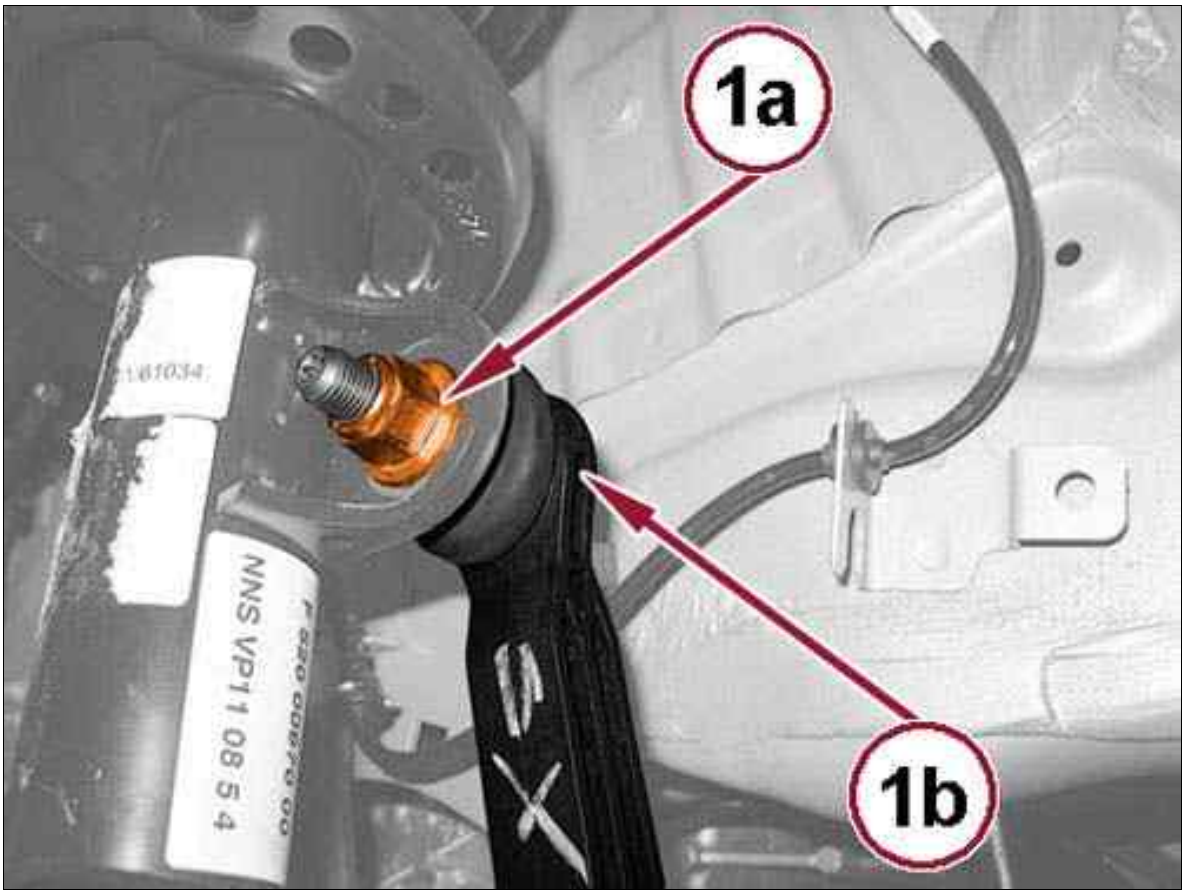
- Inspect for a damaged or broken coil spring.
- Inspect for a torn or damaged dust shield.
- Lift the dust shield and inspect the strut assembly for evidence of fluid running from the upper end of the strut fluid reservoir. Must change jounce bumper if a leaky strut is found. (Actual leakage will be a stream of fluid running down the side and dripping off lower end of unit). A slight amount of seepage between the strut shaft and strut shaft seal is not unusual and does not affect performance of the strut assembly.

- Inspect the jounce bumper for signs of damage or deterioration.
- Inspect the clearance between the shock tower and the coil spring. Make sure no fasteners are protruding through the shock tower possibly contacting the coil spring and strut. Because of the minimum clearance in this area, installation of metal fasteners could damage the coil spring coating and lead to a corrosion failure of the spring.

FRONT > STRUT, SUSPENSION, ASSEMBLY > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > REMOVAL

1. Raise and support the vehicle. Refer to HOISTING, STANDARD PROCEDURE .
2. Remove the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
3. Remove the front wiper cowl. Refer to COVER, COWL PANEL, REMOVAL AND INSTALLATION .

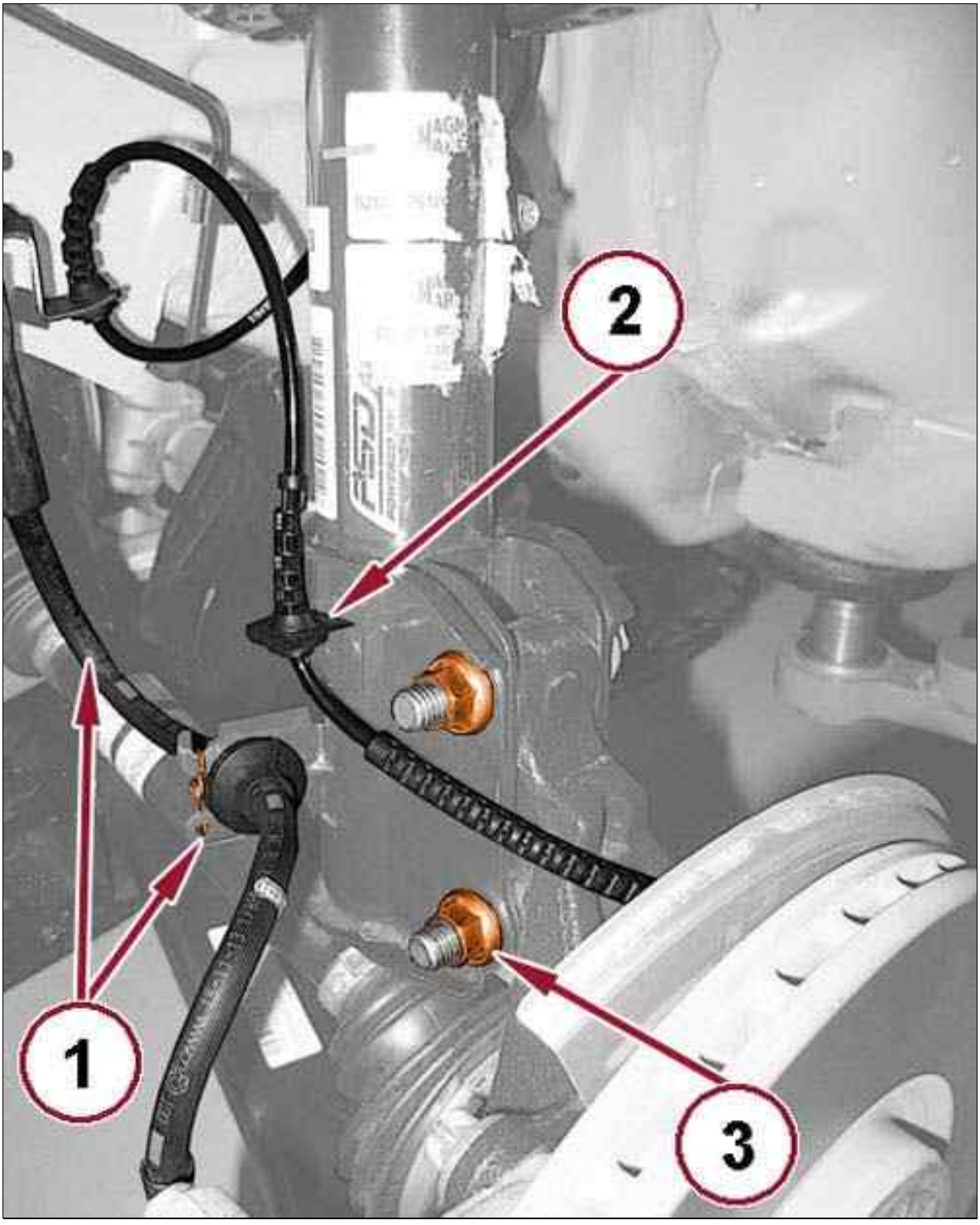
   Fig 1: Sway Bar Link To Strut Nut



Courtesy of CHRYSLER GROUP, LLC

4. While holding the stem with the appropriate tool, remove the sway bar link to strut nut (1a).

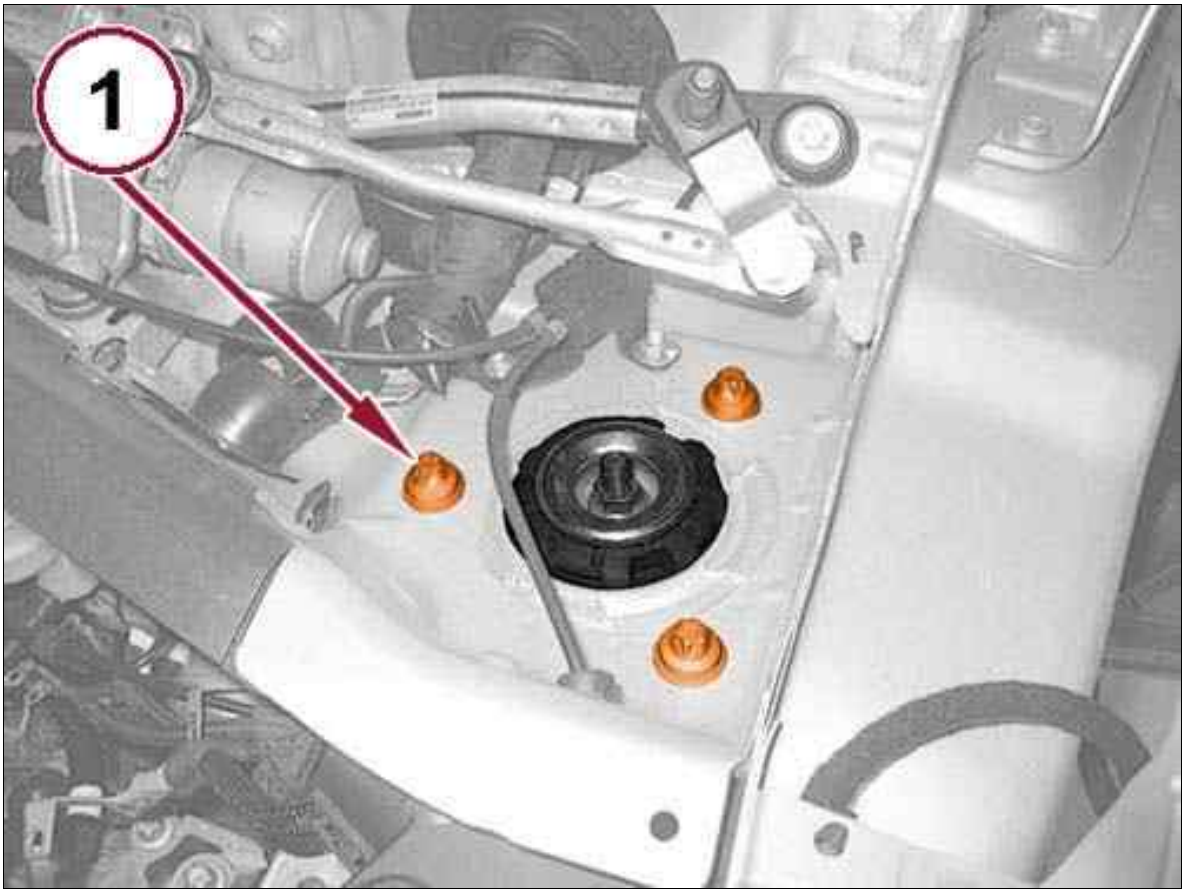
Fig 2: Brake Hose Retaining Clip, Wheel Speed Sensor Wiring & Strut To Knuckle Bolts



Courtesy of CHRYSLER GROUP, LLC

5. Remove the retaining clip and remove the brake hose from the strut (1).
6. Remove the wheel speed sensor (2) from the strut.
7. Remove the two strut to knuckle bolts (3).

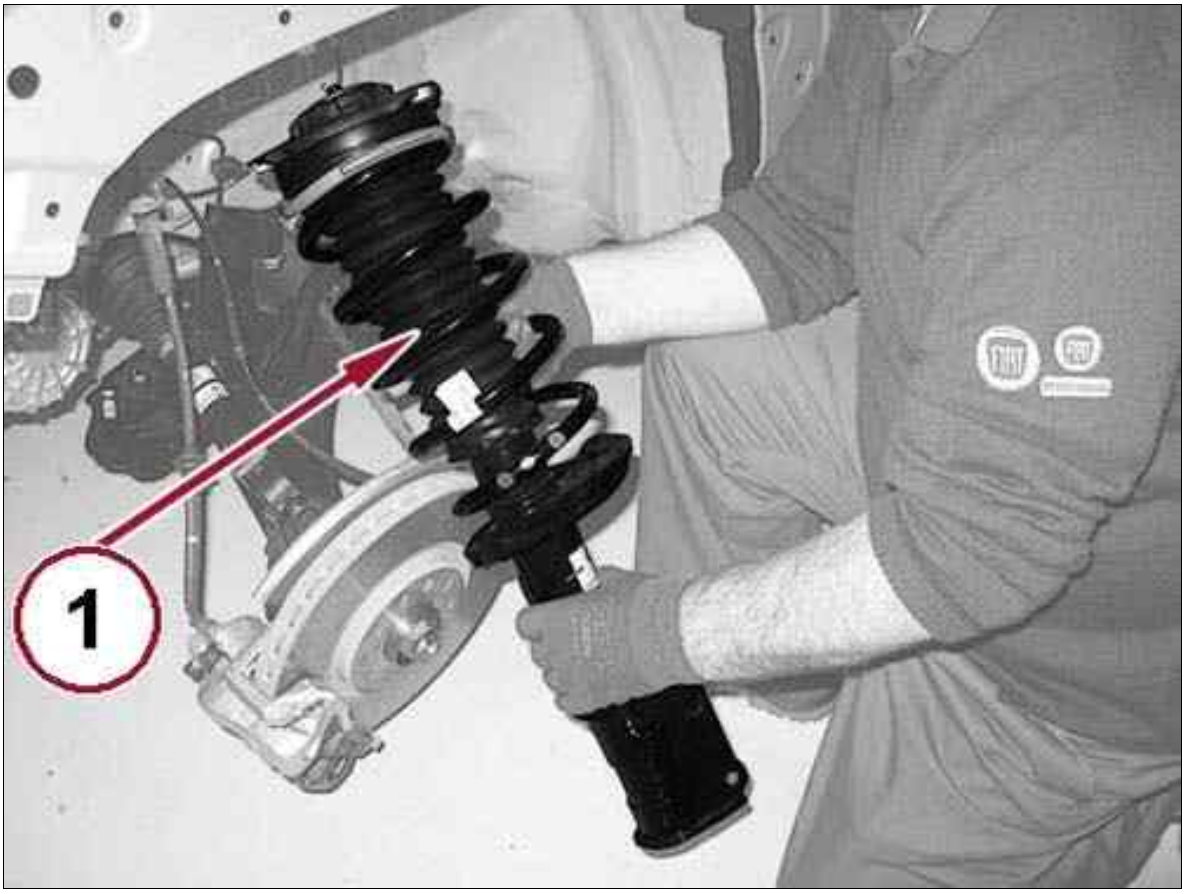
Fig 3: Strut To Body Nuts



Courtesy of CHRYSLER GROUP, LLC

8. Lower the vehicle.
9. Remove the three strut to body nuts (1).

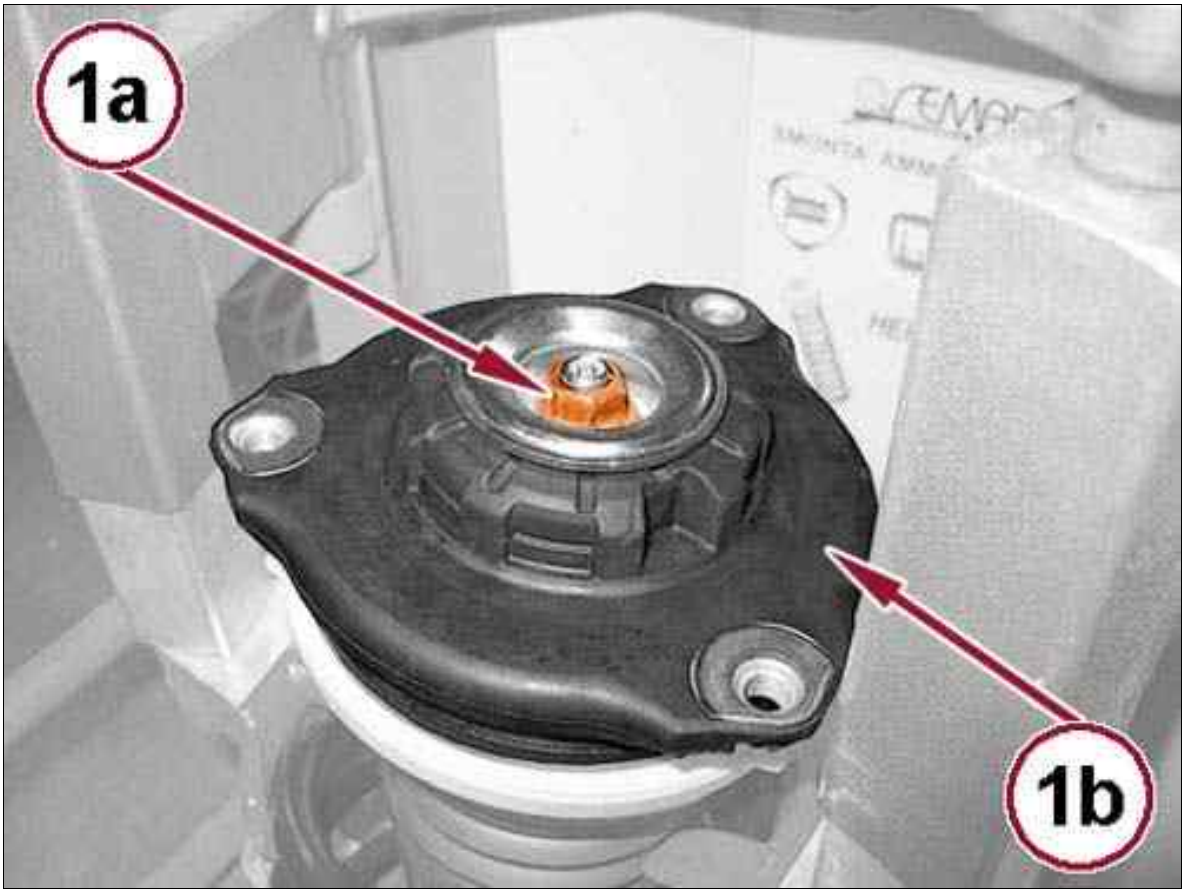
Fig 4: Strut



Courtesy of CHRYSLER GROUP, LLC

10. Remove the strut (1) from the vehicle.

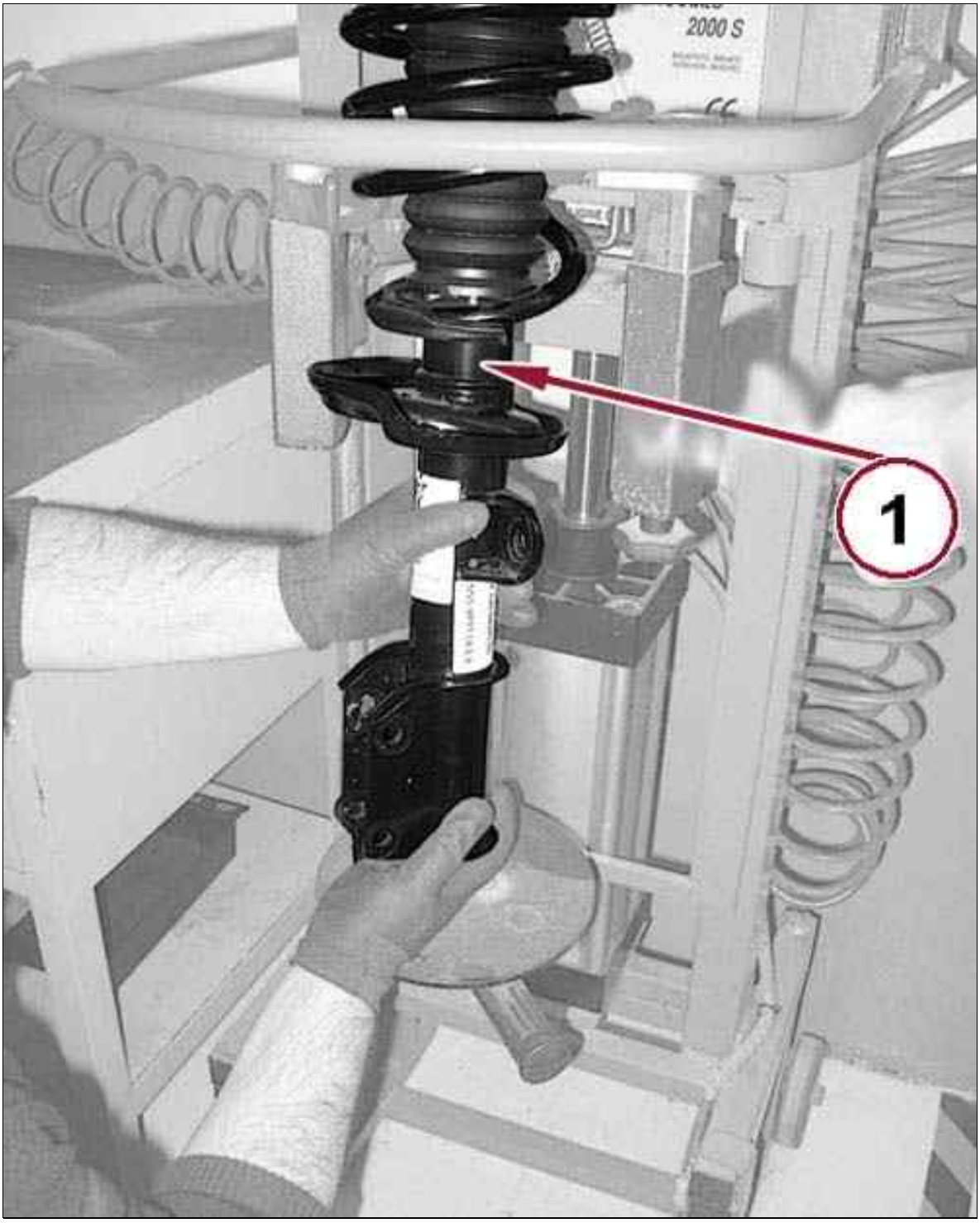
Fig 5: Strut Rod To Strut Mount Nut



Courtesy of CHRYSLER GROUP, LLC

11. Position the strut assembly into the strut compressor and compressor the spring.
12. Remove the strut rod to strut mount nut (1a).

Fig 6: Removing Strut From Spring Assembly



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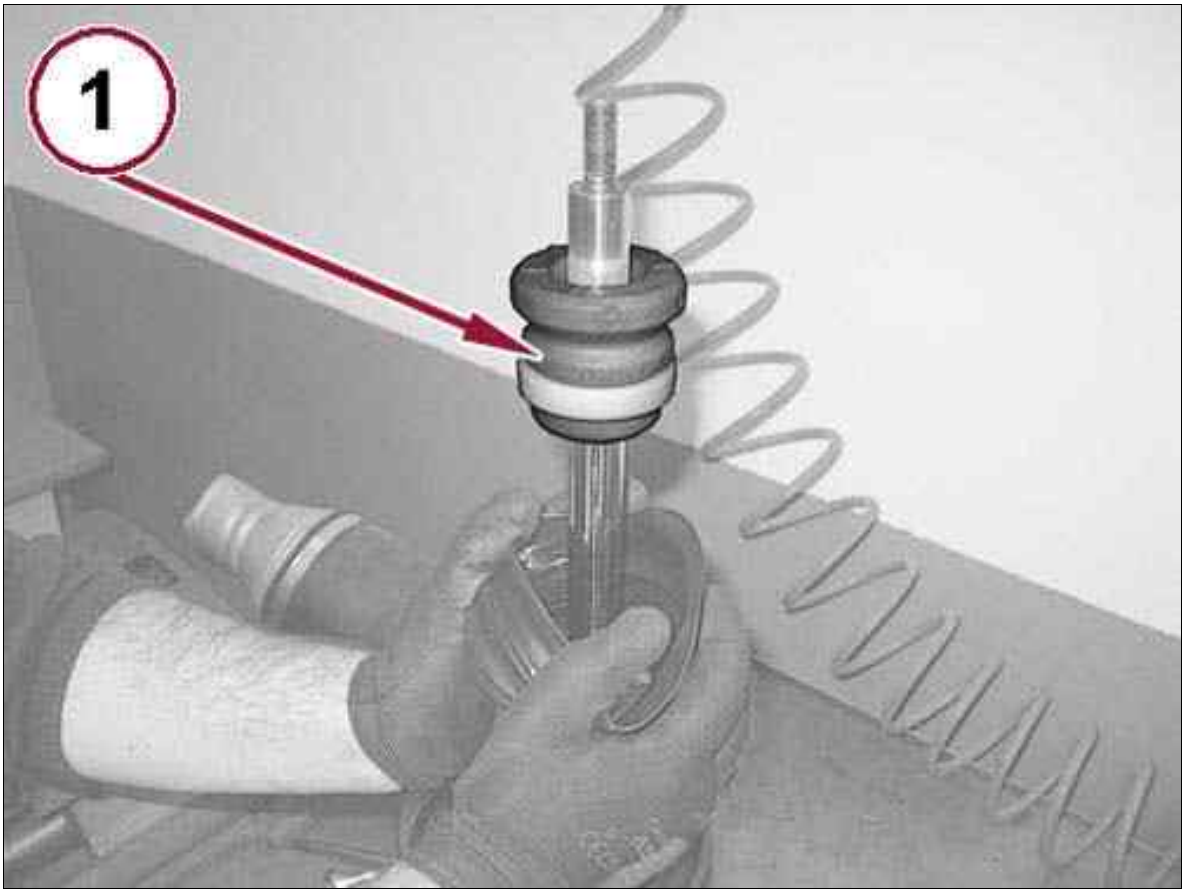
13. Remove the strut (1) from the spring assembly.

Fig 7: Jounce Bumper



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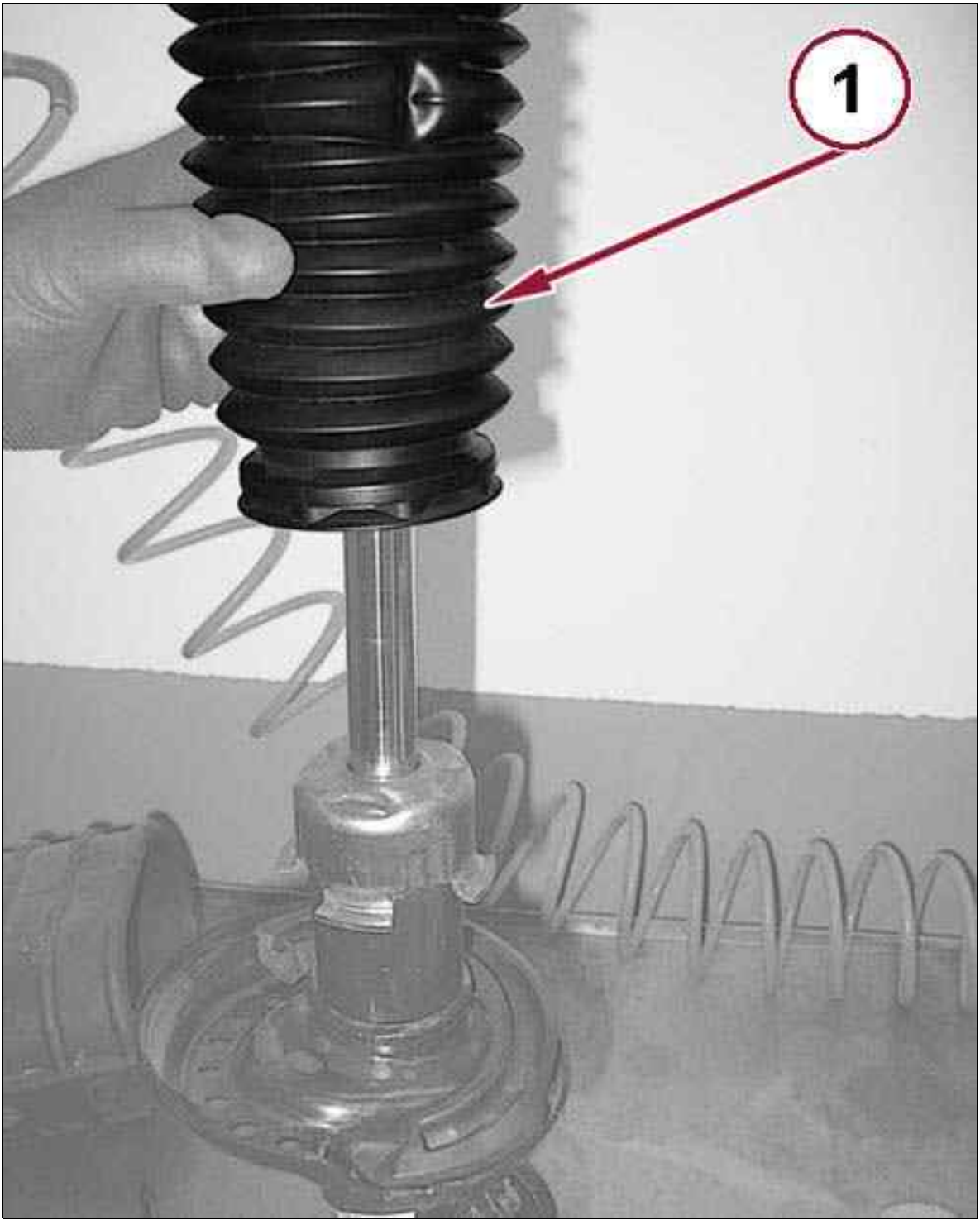
14. Lower the boot and remove the jounce bumper (1).

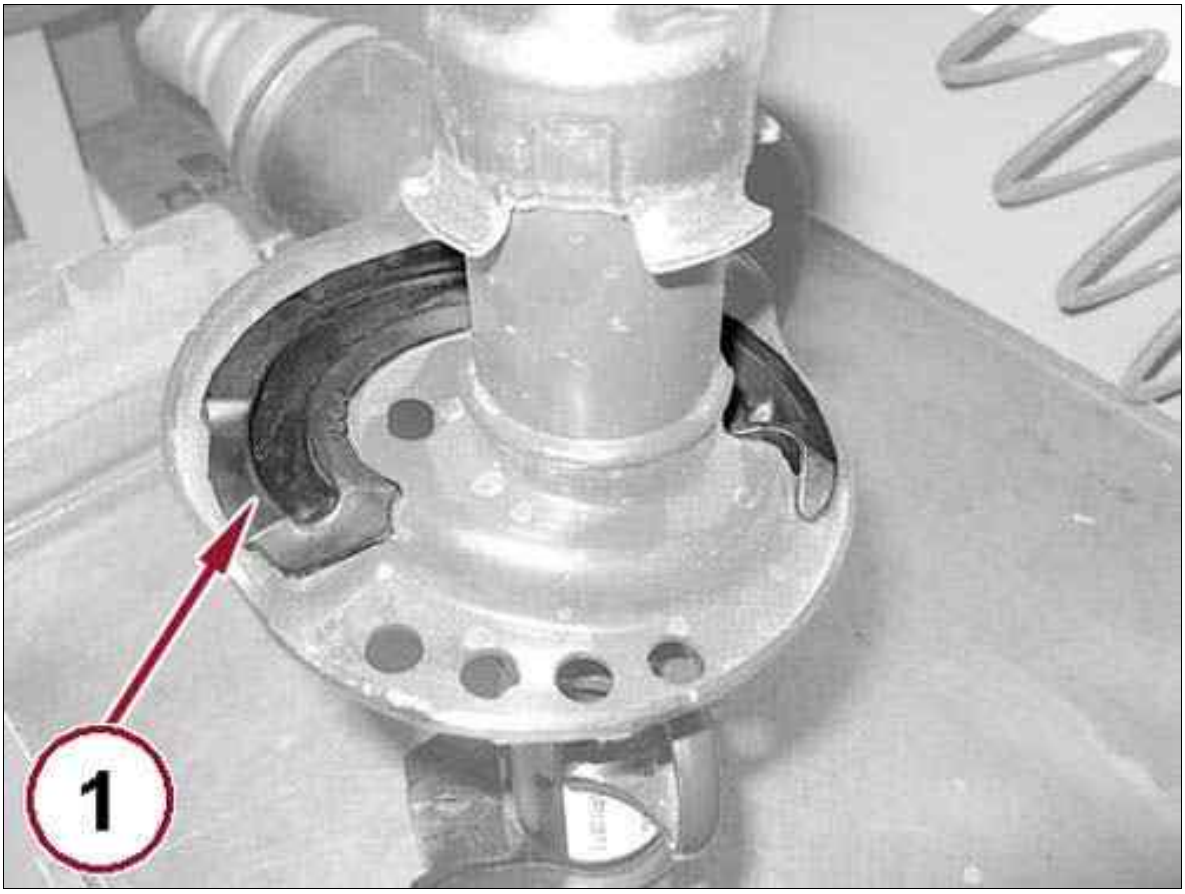
Fig 8: Strut Boot



Courtesy of CHRYSLER GROUP, LLC

15. Remove the boot (1) from the strut.

Fig 9: Lower Spring Isolator



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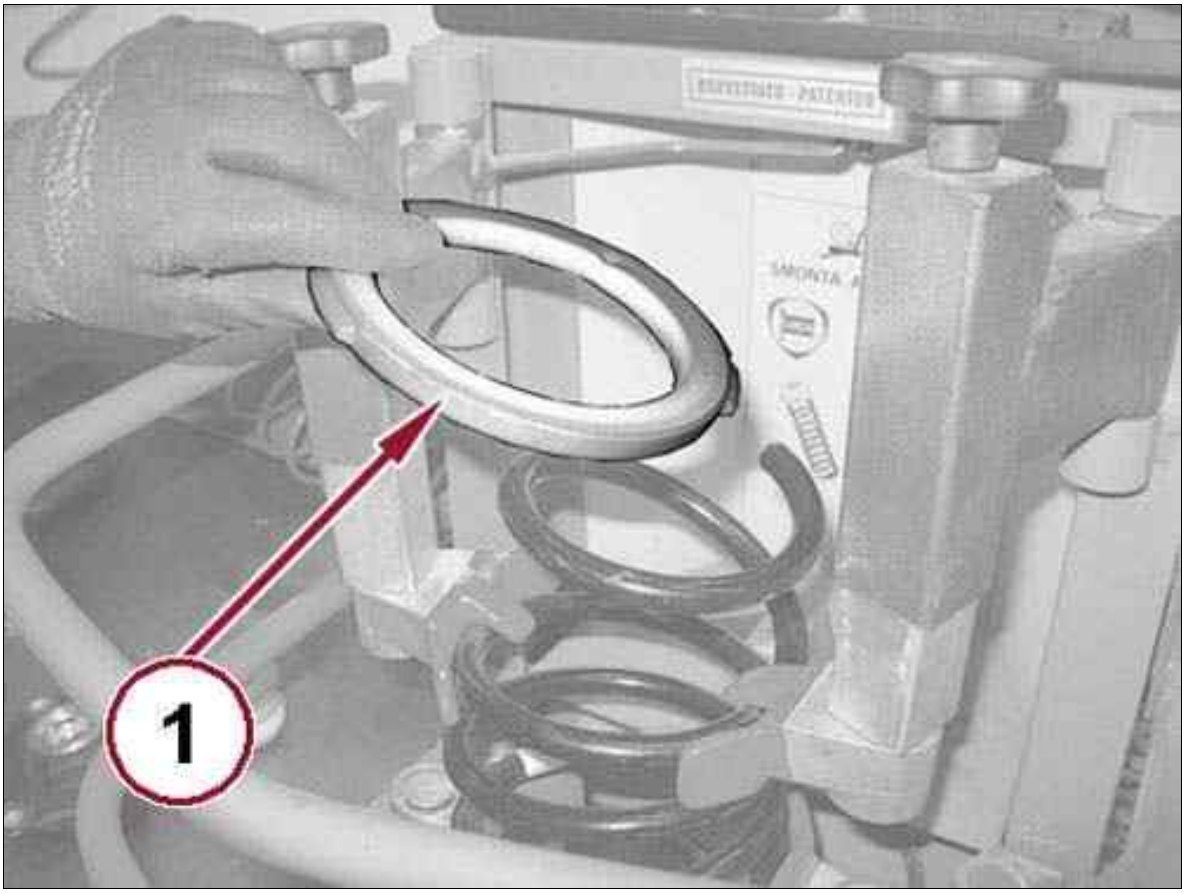
16. Remove the lower spring isolator (1).

Fig 10: Upper Spring Isolator



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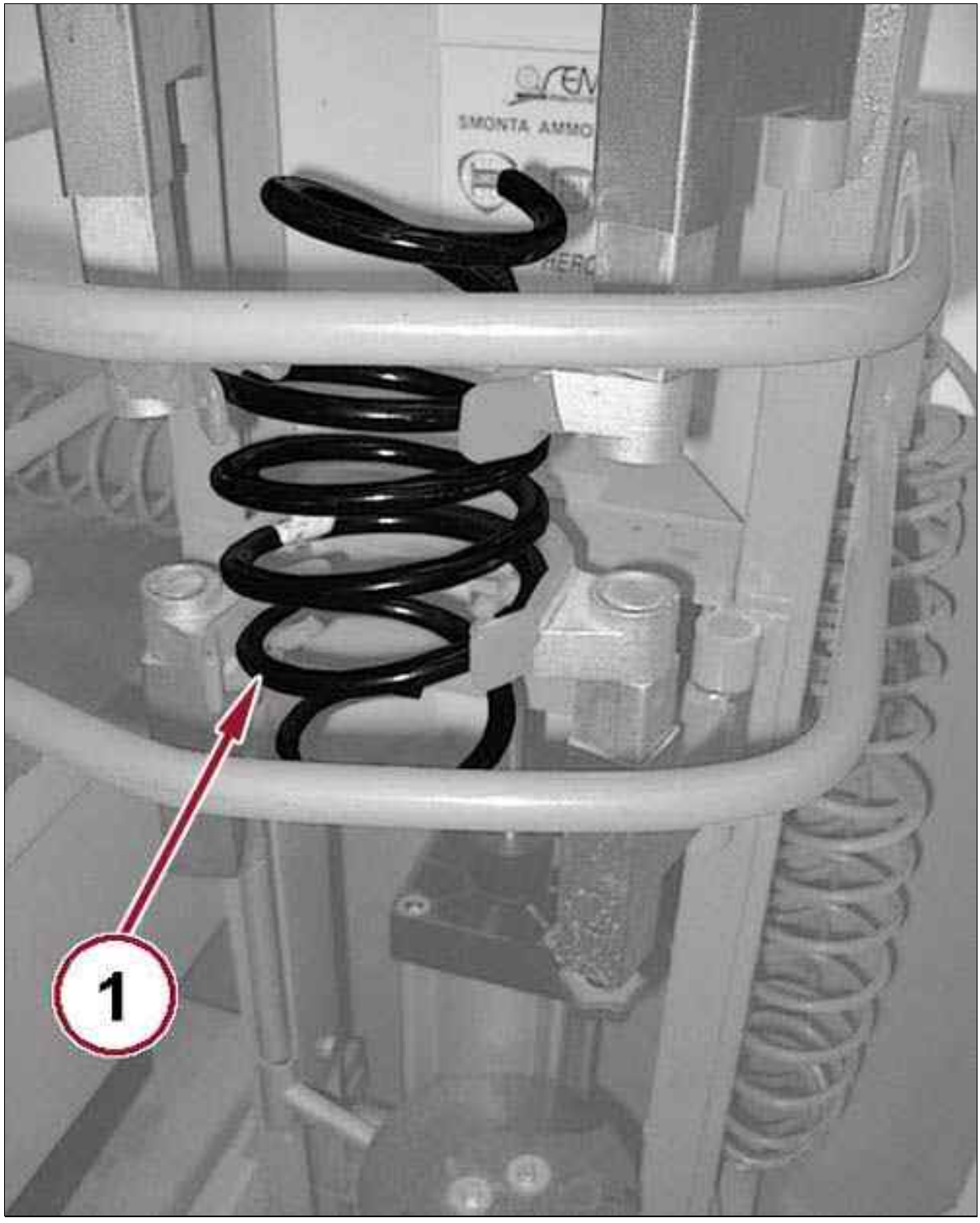
17. Remove the upper spring isolator (1).

Fig 11: Spring



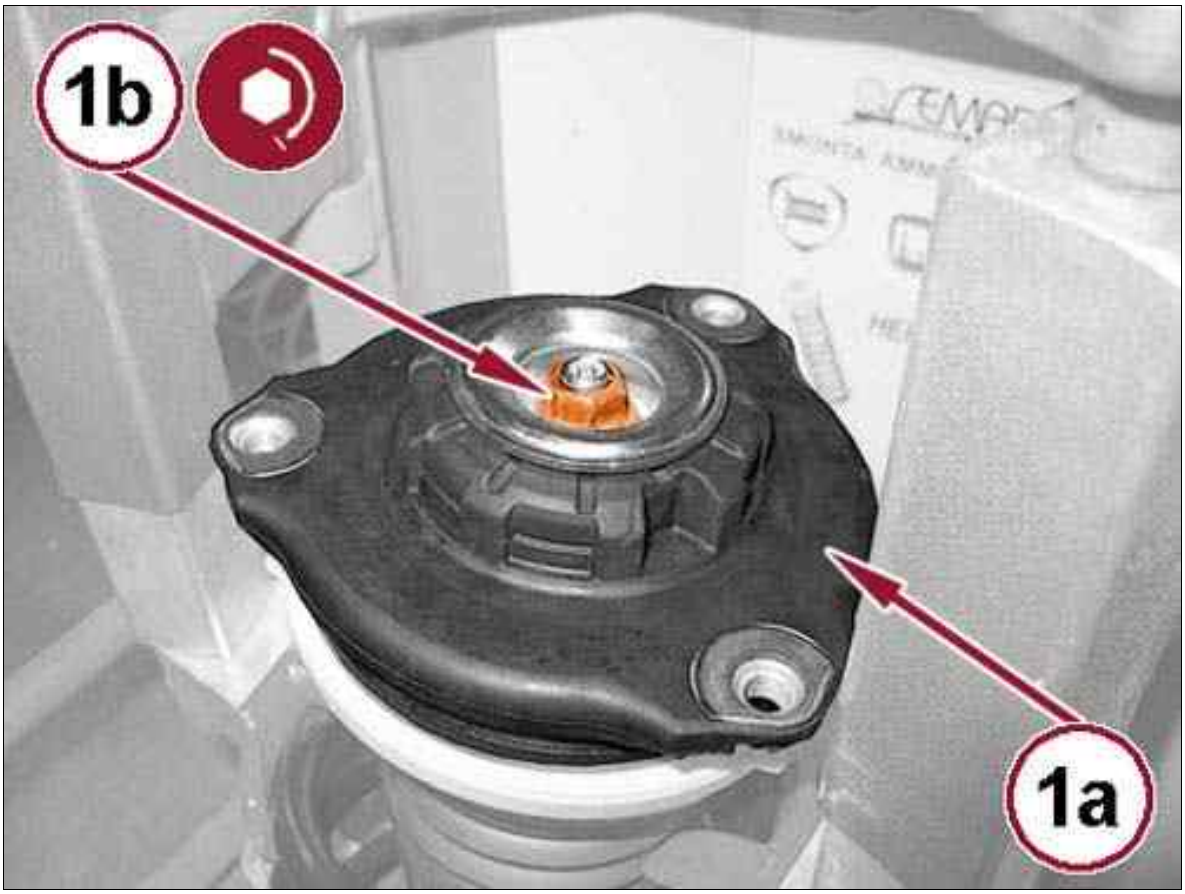
Courtesy of CHRYSLER GROUP, LLC

18. If necessary, decompress spring and remove the spring (1) from the strut compressor.

FRONT > STRUT, SUSPENSION, ASSEMBLY > REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION > INSTALLATION

1. If removed, install and compress the strut spring in the compressor.
2. Assemble the strut with the upper and lower spring isolators, boot, and the jounce bumper.

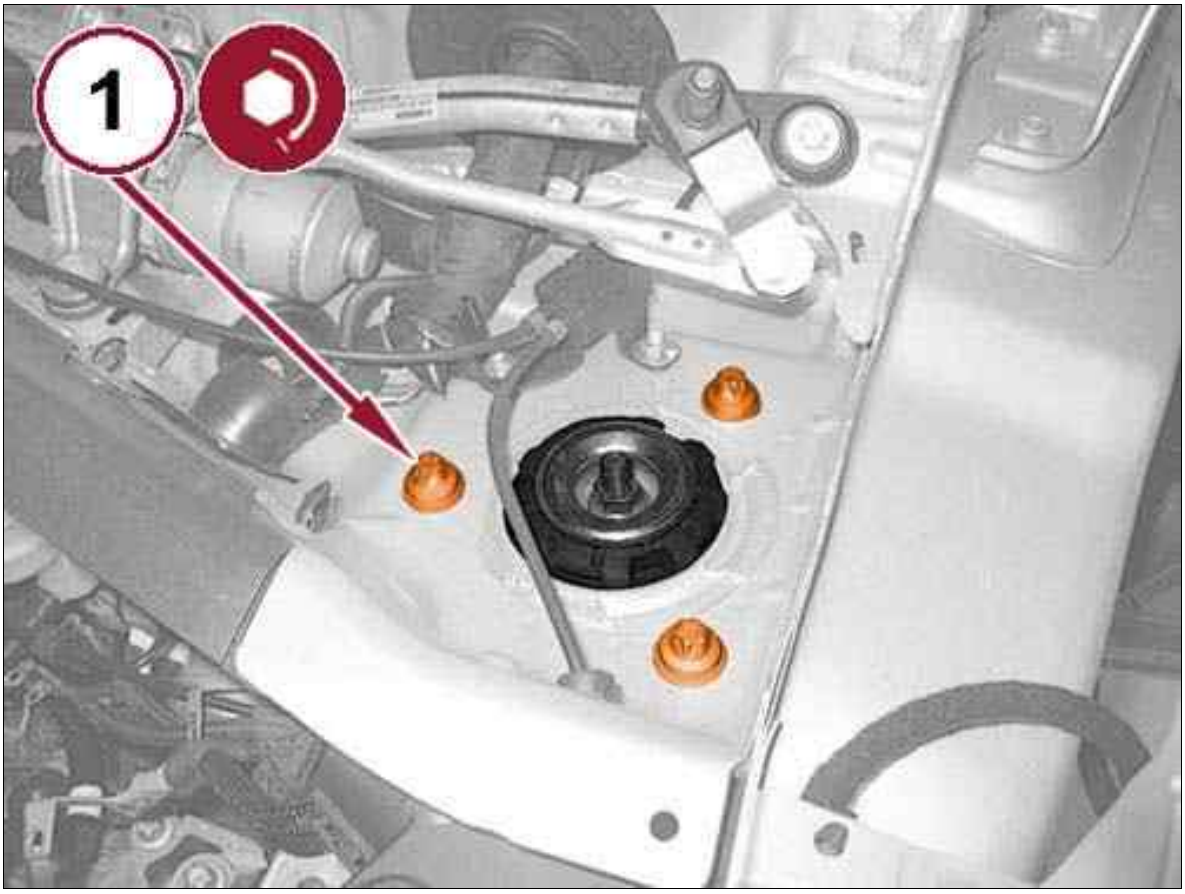
Fig 1: Upper Strut Mount & Nut



Courtesy of CHRYSLER GROUP, LLC

3. Position the upper strut mount (1a) onto the spring, install and tighten the strut rod to strut mount nut (1b) to the proper specification. Refer to FRONT, SPECIFICATIONS .
4. Raise the vehicle.

Fig 2: Strut To Body Nuts



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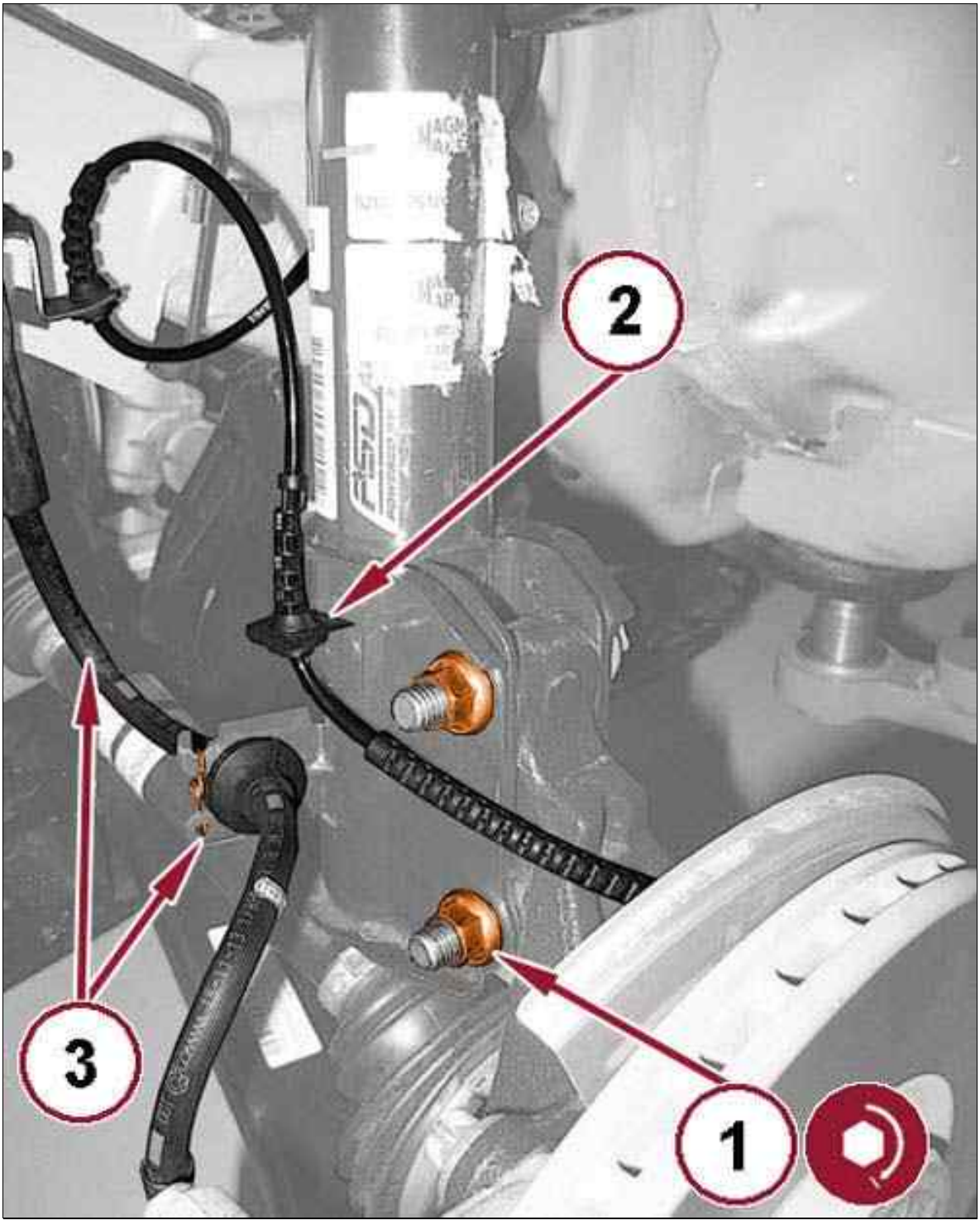
5. Position the strut into the vehicle and install and tighten the strut to body nuts (1) to the proper specification. Refer to FRONT, SPECIFICATIONS .

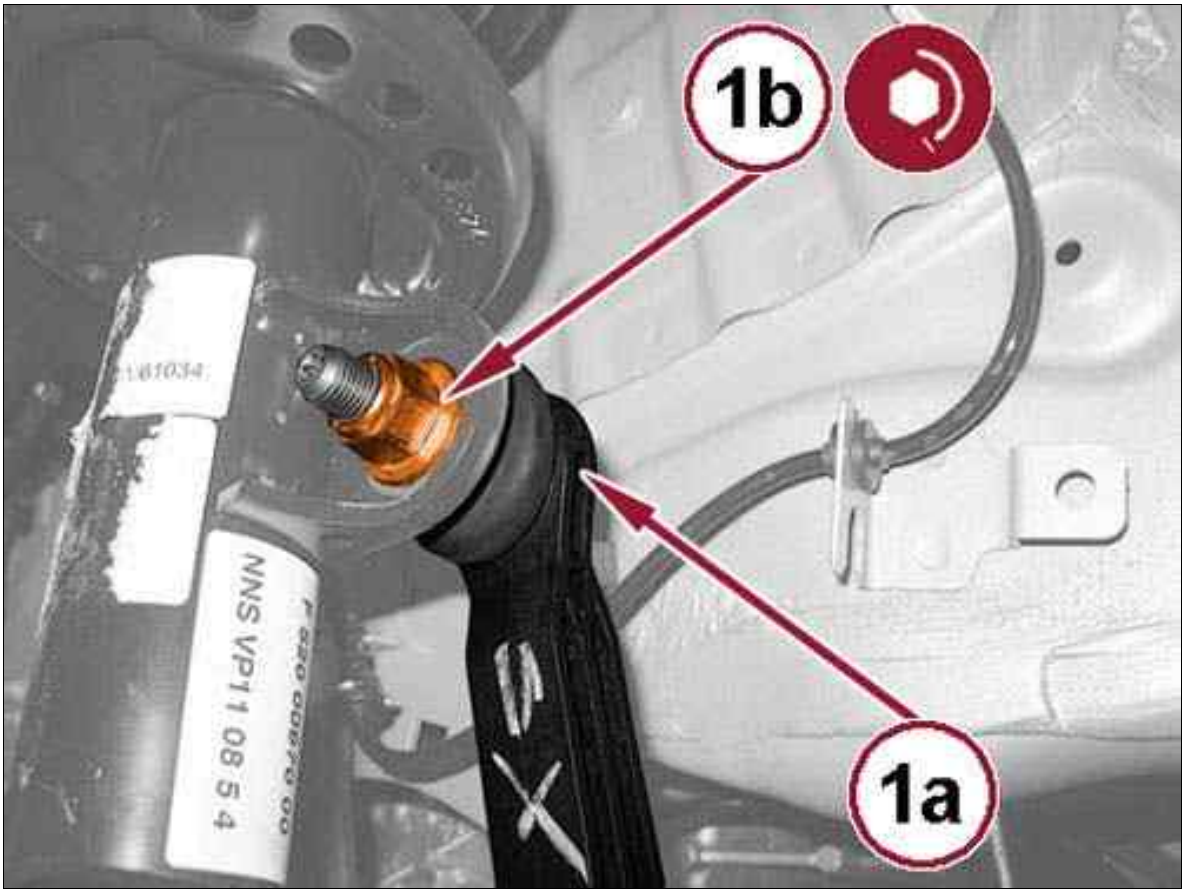
Fig 3: Brake Hose Retaining Clip, Wheel Speed Sensor Wiring & Strut To Knuckle Bolts



Courtesy of CHRYSLER GROUP, LLC

6. Install the strut to knuckle bolts (1), and tighten the bolts to the proper specification. Refer to FRONT, SPECIFICATIONS .
7. Install the wheel speed sensor (2) to the strut.
8. Install the brake hose to the strut and install the retaining clip (3).

Fig 4: Sway Bar Link To Strut Nut



Courtesy of CHRYSLER GROUP, LLC

9. Install the stem into the strut, and tighten the sway bar link to strut nut (1b) to the proper specification. Refer to FRONT, SPECIFICATIONS .
10. Install the front wiper cowl. Refer to COVER, COWL PANEL, REMOVAL AND INSTALLATION .
11. Install the tire and wheel assembly. Refer to REMOVAL AND INSTALLATION .
12. Remove the support and lower the vehicle.
13. Perform a front end alignment. Refer to WHEEL ALIGNMENT, STANDARD PROCEDURE .

WHEEL ALIGNMENT > STANDARD PROCEDURE > WHEEL ALIGNMENT > FRONT WHEEL ALIGNMENT

This control operation must always be performed after each intervention on the mechanical front suspension components with the function to define the position of the wheels relative to the frame (e.g.: control arms, struts, shock absorbers, springs, etc.).

General Information

OPERATING CYCLE

Buoyancy checks/wheel angles must be carried out, with special optical equipment, after checking and

adjusting the tire inflation pressure to prescribed values and making sure the car meets the following load condition:

- "Standard 0"-exhaust vehicle including spare wheel, tools, accessories, supply with 5 liters of fuel.
- "Standard"-exhaust vehicle including spare wheel, tools, accessories, supply (full of fuel).

ATTITUDE CONTROL

Check that the front wheel falls within the prescribed values; the set-up is measured by checking the share from the ground to the point of maximum curvature of the front mudguard.

PARTIAL TOE-IN CONTROL

4x2

4x4

- In case of partial toe front wheels does not fall into the prescribed values, proceed to registration as described below.
- Straighten the steering wheel and secure it with a suitable tool.
- Loosen the lock nuts on the left and right of the steering gear.
- Tighten or loosen the Steering box braces until the partial toe-in prescribed, keeping the front wheels aligned.

After recording the number of free threads on the tie rod right steering should be equal to the number of free threads on the tie rod left.

- Tighten to torque the tie rod nuts left and right steering box.
- Remove the tool for locking of the steering wheel.

CAMBER CONTROL

The front wheel camber is not adjustable. If the value is not within the prescribed limits control the lower control arm and the body.

4x2

4x4

- Check that the front wheel camber falls within the values specified.

IMPACT CONTROL

The caster of the front wheels is not adjustable. If the value is not within the prescribed limits control the lower control arm and the body.

4x2

4x4

- Check that the front wheels incidence falls within the values specified.

NOTE:

Connect the diagnosis tool to perform the calibration of the steering position sensor.

WHEEL ALIGNMENT > STANDARD PROCEDURE > WHEEL ALIGNMENT > REAR WHEEL ALIGNMENT

This control operation must always be performed after each intervention on the mechanical front suspension components with the function to define the position of the wheels relative to the frame (e.g.: control arms, struts, shock absorbers, springs, etc.).

General Information

OPERATING CYCLE

Buoyancy checks/wheel angles must be carried out, with special optical equipment, after checking and adjusting the tire inflation pressure to prescribed values and making sure the car meets the following load condition:

- "Standard 0"-exhaust vehicle including spare wheel, tools, accessories, supply with 5 liters of fuel.
- "Standard"-exhaust vehicle including spare wheel, tools, accessories, supply (full of fuel).

PARTIAL TOE-IN CONTROL

4x2

4x4

- Check that the partial toe-in of the rear wheels falls within the values specified.
- To adjust the partial toe-in rear wheels adjust screws fastening cam rear swinging arms to the cross of the rear suspension.
- As A result of this adjustment, tighten screws to specified torque.

After recording the number of free threads on the tie rod right steering should be equal to the number of free threads on the tie rod left.

CAMBER CONTROL

The values of rear wheel camber are not adjustable.

4x2

4x4

WHEEL ALIGNMENT > SPECIFICATIONS > SPECIFICATIONS

NOTE:

This check procedure must be carried out after each operation on the mechanical components of the front suspension since it defines the position of the wheels in relation to the body (e.g.: control arms, struts, shock absorbers, springs etc.).

The wheel geometry/angle checks must be carried out using appropriate optical equipment after checking and adjusting tire inflation pressure to the prescribed values and ensuring that the car complies with one of the following load conditions:

- Standard 0 - vehicle unladen including spare wheel, tools, accessories and consumables with 5 liters of fuel.
- "Standard A" - vehicle unladen including spare wheel, tools, accessories and consumables (full tank of fuel).

Front Wheel Alignment - 4x2

Measure	Value	Validity
Single Toe front wheels	-.08° +/-.07° (Standard 0 e Standard A)	**1.4L - 2.4L - 1.6L**
Camber front wheels	-.62° +/-.50° (Standard 0)	**1.4L - 2.4L - 1.6L**
Camber front wheels	-.63° +/-.50° (Standard A)	**1.4L - 2.4L - 1.6L**
Caster front wheels	5.22° +/-.50° (Standard 0)	**1.4L - 2.4L - 1.6L**
Caster front wheels	5.27° +/-.50° (Standard A)	**1.4L - 2.4L - 1.6L**

Front Wheel Alignment - 4x4

Measure	Value	Validity
Single Toe front wheels	-.10° +/-.07° (Standard 0 e Standard A)	**1.4L EMEA - 2.0L EMEA**
Single Toe front wheels	-.07° +/-.07° (Standard 0 e Standard A)	**1.4L NAFTA - 2.4L NAFTA**
Camber front wheels	-.78° +/-.50° (Standard 0)	**1.4L EMEA - 2.0L EMEA**
Camber front wheels	-.82° +/-.50° (Standard A)	**1.4L EMEA - 2.0L EMEA**
Camber front wheels	-.63° +/-.50° (Standard 0)	**1.4L NAFTA - 2.4L NAFTA**
Camber front wheels	-.67° +/-.50° (Standard A)	**1.4L NAFTA - 2.4L NAFTA**
Caster front wheels	5.05° +/-.50° (Standard 0)	**1.4L EMEA - 2.0L EMEA**
Caster front wheels	5.07° +/-.50° (Standard A)	**1.4L EMEA - 2.0L EMEA**
Caster front wheels	4.95° +/-.50° (Standard 0)	**1.4L NAFTA - 2.4L NAFTA**
Caster front wheels	4.95° +/-.50° (Standard 0)	**1.4L NAFTA- 2.4L NAFTA**

Front Wheel Alignment - TrailHawk

Measure	Value	Validity
Single Toe front wheels	-.05° +/-.07° (Standard 0 e Standard A)	**2.4L NAFTA Base - 2.0L 170CV**
Single Toe front wheels	-.08° +/-.07° (Standard 0 e Standard A)	**2.4L NAFTA - 2.4L JAPAN**
Camber front wheels	-.55° +/-.50° (Standard 0)	**2.4L NAFTA Base - 2.0L 170CV**
Camber front wheels	-.58° +/-.50° (Standard A)	**2.4L NAFTA Base - 2.0L 170 CV**
Camber front wheels	-.72° +/-.50° (Standard 0)	**2.4L NAFTA - 2.4L JAPAN**
Camber front wheels	-.75° +/-.50° (Standard A)	**2.4L NAFTA - 2.4L JAPAN**
Caster front wheels	4.90° +/-.50° (Standard 0)	**2.4L NAFTA Base - 2.0L 170CV**
Caster front wheels	4.93° +/-.50° (Standard A)	**2.4L NAFTA Base - 2.0L 170CV**
Caster front wheels	4.75° +/-.50° (Standard 0)	**2.4L NAFTA - 2.4L JAPAN**
Caster front wheels	4.78° +/-.50° (Standard A)	**2.4L NAFTA - 2.4L JAPAN**

Rear Wheel Alignment - 4x2

Measure	Value	Validity
Single Toe front wheels	.15° +/-.07° (Standard 0)	**1.4L - 2.4L - 1.6L**
Single Toe front wheels	.17° +/-.07° (Standard A)	**1.4L - 2.4L - 1.6L**
Camber front wheels	-1.07° +/-.50° (Standard 0)	**1.4L - 2.4L - 1.6L**
Camber front wheels	-1.17° +/-.50° (Standard A)	**1.4L - 2.4L - 1.6L**

Rear Wheel Alignment - 4x4

Measure	Value	Validity
Single Toe front wheels	.12+/-.07° (Standard 0)	**1.4L EMEA - 2.0L EMEA**
Single Toe front wheels	.15° +/-.07° (Standard A)	**1.4L EMEA - 2.0L EMEA**
Single Toe front wheels	.08° +/-.07° (Standard 0)	**1.4L NAFTA- 2.4L NAFTA**
Single Toe front wheels	.10° +/-.07° (Standard A)	**1.4L NAFTA- 2.4L NAFTA**
Camber front wheels	-1.18° +/-.50° (Standard 0)	**1.4L EMEA - 2.0L EMEA**
Camber front wheels	-1.30° +/-.50° (Standard A)	**1.4L EMEA - 2.0L EMEA**
Camber front wheels	-1.02 +/-.50° (Standard 0)	**1.4L NAFTA- 2.4L NAFTA**

Camber front wheels	-1.13° +/-.50° (Standard A)	**1.4L NAFTA- 2.4L NAFTA**

Rear Wheel Alignment - TrailHawk

Measure	Value	Validity
Single Toe front wheels	.07° +/-.07° (Standard 0)	**2.4L NAFTA Base - 2.0L 170CV**
Single Toe front wheels	.08° +/-.07° (Standard A)	**2.4L NAFTA Base - 2.0L 170CV**
Single Toe front wheels	.05° +/-.07° (Standard 0 e Standard A)	**2.4L NAFTA - 2.4L JAPAN**
Camber front wheels	-.95° +/-.50° (Standard 0)	**2.4L NAFTA Base - 2.0L 170CV**
Camber front wheels	-1.05° +/-.50° (Standard A)	**2.4L NAFTA Base - 2.0L 170CV**
Camber front wheels	-.92° +/-.50° (Standard 0)	**2.4L NAFTA - 2.4L JAPAN**
Camber front wheels	-1.03° +/-.50° (Standard A)	**2.4L NAFTA - 2.4L JAPAN**